

**hp** StorageWorks  
Interface Manager  
and  
Command View ESL



User  
Guide

# hp StorageWorks Interface Manager and Command View ESL

Product Version: 1.3

Fourth Edition (May 2004)

Part Number: 344841-004

This user guide provides installation and usage instructions for Command View ESL and the Command Line Interface (CLI) used with the HP StorageWorks Interface Manager for ESL Tape Libraries. This guide also provides instruction on how to license and use the advanced features of the Interface Manager card.



© Copyright 2004 Hewlett-Packard Development Company, L.P.

Hewlett-Packard Company makes no warranty of any kind with regard to this material, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose. Hewlett-Packard shall not be liable for errors contained herein or for incidental or consequential damages in connection with the furnishing, performance, or use of this material.

This document contains proprietary information, which is protected by copyright. No part of this document may be photocopied, reproduced, or translated into another language without the prior written consent of Hewlett-Packard. The information contained in this document is subject to change without notice.

Microsoft®, MS-DOS®, MS Windows®, Windows®, and Windows NT® are U.S. registered trademarks of Microsoft Corporation.

Java™ is a US trademark of Sun Microsystems, Inc.

Hewlett-Packard Company shall not be liable for technical or editorial errors or omissions contained herein. The information is provided "as is" without warranty of any kind and is subject to change without notice. The warranties for Hewlett-Packard Company products are set forth in the express limited warranty statements for such products. Nothing herein should be construed as constituting an additional warranty.

Printed in the USA

Interface Manager and Command View ESL User Guide  
Fourth Edition (May 2004)  
Part Number: 344841-004

# Contents

<b>About this Guide</b>	<b>11</b>
Overview	12
Intended audience	12
Related documentation	12
Conventions	13
Document conventions	13
Text symbols	13
Equipment symbols	14
Getting help	16
HP technical support	16
HP Storage web site	16
HP authorized reseller	17
<b>1 Introduction</b>	<b>19</b>
Network configuration overview	20
Order of precedence of User Interfaces	22
<b>2 Command View ESL</b>	<b>23</b>
Overview	23
Prerequisites	24
Installing Command View ESL	25
Starting Command View ESL	26
Using the launcher screen	27
Navigating Command View ESL	27
Device numbering conventions	30
Initial configuration steps	31
Other common Command View ESL functions	32
Adding or removing a library	32
Configuring a library	33
Configuring the Fibre Channel interface controllers	34

Monitoring device status .....	35
Viewing the event log .....	36
Viewing inventory of the library .....	37
Updating firmware .....	37
Using the License Manager .....	40
Library Selection tab. ....	41
Adding and removing libraries. ....	41
Managing libraries .....	41
Identity tab. ....	42
Status tab .....	42
Health Summary .....	43
Cabling View .....	44
Component Status .....	44
Event log .....	45
Inventory .....	46
Configuration tab. ....	47
Library Properties .....	48
Interface Settings. ....	48
Interface Manager mode. ....	48
Connection Properties .....	49
Host Access (Secure Manager) .....	50
Direct Backup .....	50
Network settings .....	51
TCP/IP .....	51
SNMP Alerts .....	52
Operations tab .....	53
Support tab. ....	54
HP on the Web .....	54
Firmware Update. ....	54
Management Station tab. ....	58
Network settings. ....	58
Administrative password .....	59
License Key Summary tab .....	60
Adding or removing a license key .....	61
<b>3 Command Line Interface .....</b>	<b>63</b>
Accessing the CLI. ....	64
Starting a serial session .....	64
Starting a Telnet session. ....	66

---

Telnet through the LAN . . . . .	66
Telnet through the cascade port. . . . .	66
Command syntax structure . . . . .	68
Using command sequences . . . . .	69
Abbreviating commands . . . . .	69
Device numbering conventions . . . . .	70
Navigating the CLI. . . . .	71
Interface Manager mode . . . . .	72
Common CLI functions . . . . .	72
Using the Setup wizard . . . . .	73
Configuring a library . . . . .	74
Configuring the FC interface controllers . . . . .	74
Monitoring device status . . . . .	75
Generating Interface Manager and FC interface controller logs . . . . .	75
Updating firmware . . . . .	77
Generating support tickets . . . . .	78
Using Secure Manager functions . . . . .	80
Accessing basic Secure Manager through the CLI . . . . .	80
<b>4 Advanced Features . . . . .</b>	<b>83</b>
Direct Backup Engine for ESL . . . . .	84
Requirements . . . . .	84
Using Direct Backup Engine for ESL . . . . .	85
Enabling Direct Backup for ESL on tape drives . . . . .	85
Secure Manager for ESL . . . . .	88
Requirements . . . . .	88
Using Secure Manager for ESL . . . . .	89
Adding or removing a host/HBA from the list . . . . .	90
Editing the host HBA alias . . . . .	91
Viewing host HBA properties . . . . .	91
Configuring access for a host HBA. . . . .	91
Viewing the device map . . . . .	92
Obtaining and installing license keys . . . . .	92
Installing the license keys . . . . .	93
<b>5 Troubleshooting . . . . .</b>	<b>95</b>

<b>A</b>	<b>CLI Command Reference</b>	<b>101</b>
	User commands	101
	add directbackup	102
	create host.	103
	delete directbackup.	104
	download interface.	105
	download drive.	107
	download mgmt	109
	download library	110
	map host.	111
	reboot all.	112
	reboot interface.	113
	reboot mgmt.	114
	restore interface defaults	115
	restore system config	116
	save interface log	117
	save drive lttsupportticket	118
	save interface lttsupportticket	119
	save library lttsupportticket	120
	save mgmt lttsupportticket	121
	save mgmt log	122
	save system config	123
	set host name	124
	set interface hostport alpa.	125
	set interface hostport connection	126
	set interface hostport mode	127
	set interface hostport speed	128
	set mgmt clock	129
	set mgmt password.	130
	set mgmt timezone	131
	set mode	132
	set network dhcp	133
	set network ipaddress.	134
	set system assetnumber	135
	set system contact email.	136
	set system contact name.	137
	set system contact pager.	138
	set system contact phone	139

---

set system location . . . . .	140
set system name . . . . .	141
setup . . . . .	142
show directbackup . . . . .	144
show drive access . . . . .	145
show drive info . . . . .	146
show drive interface . . . . .	148
show drive name . . . . .	149
show drive productid . . . . .	150
show drive revision . . . . .	151
show drive serialnumber . . . . .	152
show drive status . . . . .	153
show drive type . . . . .	154
show firmware available . . . . .	155
show firmware revisions . . . . .	156
show host access . . . . .	157
show host info . . . . .	158
show host name . . . . .	159
show interface access . . . . .	160
show interface hostport alpa . . . . .	161
show interface hostport connection . . . . .	162
show interface hostport mode . . . . .	163
show interface hostport speed . . . . .	164
show interface info . . . . .	165
show interface name . . . . .	168
show interface revision . . . . .	169
show interface status . . . . .	170
show interface targetport alpa . . . . .	171
show interface targetport connection . . . . .	172
show interface targetport mode . . . . .	173
show interface targetport speed . . . . .	174
show library access . . . . .	175
show library info . . . . .	176
show library interface . . . . .	177
show library name . . . . .	178
show library productid . . . . .	179
show library revision . . . . .	180
show library serialnumber . . . . .	181



show library status . . . . .	182
show library topology . . . . .	183
show license . . . . .	184
show mgmt clock . . . . .	185
show mgmt info . . . . .	186
show mgmt revision . . . . .	187
show mgmt status . . . . .	188
show mgmt timezone . . . . .	189
show mode . . . . .	190
show network dhcp . . . . .	191
show network ipaddress . . . . .	192
show robotics status . . . . .	193
show system assetnumber . . . . .	194
show system contact email . . . . .	195
show system contact name . . . . .	196
show system contact pager . . . . .	197
show system contact phone . . . . .	198
show system info . . . . .	199
show system location . . . . .	200
show system name . . . . .	201
show system status . . . . .	202
unmap host . . . . .	203
. . . . .	204
<b>B Supplemental Information . . . . .</b>	<b>205</b>
ALPA matrix . . . . .	205
<b>Index . . . . .</b>	<b>207</b>
<b>Figures</b>	
1 Network configuration for ESL9000 Series libraries. . . . .	20
2 Network configuration for ESL E-Series libraries. . . . .	21
3 Command View ESL Launcher screen . . . . .	26
4 Example of a typical screen showing the two-panel format and columnar data . . . . .	28
5 Health Summary screen . . . . .	35
6 Firmware Update screen . . . . .	37
7 Firmware Update wizard . . . . .	38
8 Health Summary screen . . . . .	43
9 Cabling View screen . . . . .	44

---

10	Inventory screen . . . . .	46
11	SNMP Alerts screen . . . . .	52
12	SNMP Trap Entry dialog box . . . . .	53
13	Firmware Update screen . . . . .	55
14	Firmware Update wizard . . . . .	56
15	License Key Summary screen . . . . .	60
16	Connecting to the cascade port . . . . .	67
17	Direct Backup screen . . . . .	86
18	Direct Backup dialog box . . . . .	86
19	Secure Manager screen . . . . .	89

**Tables**

1	Document Conventions . . . . .	13
2	Toolbar buttons . . . . .	29
3	Device Numbering Conventions . . . . .	30
4	Device Numbering Conventions . . . . .	70
5	Basic Commands . . . . .	71
6	Operational commands . . . . .	71
7	Log file types and filenames . . . . .	76
8	ESL9000 Series issues . . . . .	95
9	ESL E-Series issues . . . . .	98



## About This Guide

This user guide provides information to help you:

- Understand the different user interfaces used with the Interface Manager card
- Install and use the Command View ESL software
- Use the Interface Manager's command line interface (CLI)

“About This Guide” topics include:

- [Overview](#)
- [Conventions](#)
- [Getting help](#)

## Overview

This section covers the following topics:

- [Intended audience](#)
- [Related documentation](#)

## Intended audience

This book is intended for use by system administrators and IT personnel responsible for operating and maintaining an ESL library.

## Related documentation

In addition to this guide, HP provides the following additional documentation:

- *HP StorageWorks Interface Manager and Command View ESL Installation Guide*
- *HP StorageWorks Interface Manager and Command View ESL Installation Instructions*
- *HP StorageWorks ESL E-Series Tape Library Unpacking and Installation Guide*
- *HP StorageWorks ESL E-Series Tape Library User Guide*

## Conventions

Conventions consist of the following:

- Document conventions
- Text symbols
- Equipment symbols

### Document conventions

The document conventions included in Table 1 apply in most cases.

**Table 1: Document Conventions**

Element	Convention
Cross-reference links	<a href="#">Figure 1</a>
Key and field names, menu items, buttons, and dialog box titles	<b>Bold</b>
File names, application names, and text emphasis	<i>Italics</i>
User input, command and directory names, and system responses (output and messages)	Monospace font COMMAND NAMES are uppercase monospace font unless they are case sensitive
Variables	<monospace, italic font>
Web site addresses	Underlined sans serif font text: <a href="http://www.hp.com">http://www.hp.com</a>

### Text symbols

The following symbols may be found in the text of this guide. They have the following meanings.



**WARNING:** Text set off in this manner indicates that failure to follow directions in the warning could result in bodily harm or death.



**Caution:** Text set off in this manner indicates that failure to follow directions could result in damage to equipment or data.

---

**Note:** Text set off in this manner presents commentary, sidelights, or interesting points of information.

---

## Equipment symbols

The following equipment symbols may be found on hardware for which this guide pertains. They have the following meanings.



Any enclosed surface or area of the equipment marked with these symbols indicates the presence of electrical shock hazards. Enclosed area contains no operator serviceable parts.

**WARNING:** To reduce the risk of personal injury from electrical shock hazards, do not open this enclosure.

---



Any RJ-45 receptacle marked with these symbols indicates a network interface connection.

**WARNING:** To reduce the risk of electrical shock, fire, or damage to the equipment, do not plug telephone or telecommunications connectors into this receptacle.

---



Any surface or area of the equipment marked with these symbols indicates the presence of a hot surface or hot component. Contact with this surface could result in injury.

**WARNING:** To reduce the risk of personal injury from a hot component, allow the surface to cool before touching.

---



Power supplies or systems marked with these symbols indicate the presence of multiple sources of power.

**WARNING:** To reduce the risk of personal injury from electrical shock, remove all power cords to completely disconnect power from the power supplies and systems.

---



Any product or assembly marked with these symbols indicates that the component exceeds the recommended weight for one individual to handle safely.

**WARNING:** To reduce the risk of personal injury or damage to the equipment, observe local occupational health and safety requirements and guidelines for manually handling material.

---



## Getting help

If you still have a question after reading this guide, contact an HP authorized service provider or access our web site: <http://www.hp.com>.

## HP technical support

Telephone numbers for worldwide technical support are listed on the following HP web site: <http://www.hp.com/support/>. From this web site, select the country of origin.

---

**Note:** For continuous quality improvement, calls may be recorded or monitored.

---

Be sure to have the following information available before calling:

- Technical support registration number (if applicable)
- Product serial numbers
- Product model names and numbers
- Applicable error messages
- Operating system type and revision level
- Software used and revision level
- Detailed, specific questions

## HP Storage web site

The HP web site has the latest information on this product, as well as the latest drivers. Access storage at:

<http://www.hp.com/country/us/eng/prodserv/storage.html>.

From this web site, select the appropriate product or solution.

## HP authorized reseller

For the name of your nearest HP authorized reseller:

- In the United States, call 1-800-345-1518
- In Canada, call 1-800-263-5868
- Elsewhere, see the HP web site for locations and telephone numbers:  
<http://www.hp.com>.



# Introduction

## 1

Three different user interfaces (UIs) can be used to control the Interface Manager card. These UIs are provided by the Interface Manager card or by Command View ESL. This chapter explains the different types of UIs, what each UI is used for, and when each UI should be used. The three UIs are as follows:

- **Serial**—uses a command line interface (CLI) and connects directly to the Interface Manager card through an RS232 serial interface rather than through the LAN. The serial UI takes precedence over the Command View ESL and Telnet UIs and will prevent any other open sessions from communicating with the Interface Manager card.
- **Telnet**—uses the same CLI as the serial interface, but requires the IP address of the Interface Manager card to initiate the session. This IP address can be set through the Interface Manager card's serial interface or cascade port or, on ESL E-Series libraries, through the library's Operator Control Panel (OCP). The advantage of using Telnet over the serial interface is that users can Telnet from any client machine that is on the LAN; a separate serial connection is not needed. The Telnet UI has precedence over the Command View ESL GUI and will prevent any open Command View ESL sessions from communicating with the library.

---

**Note:** If you use Telnet to change the IP address of the Interface Manager card or library, you will have to log in to a new Telnet session with the new IP address.

---

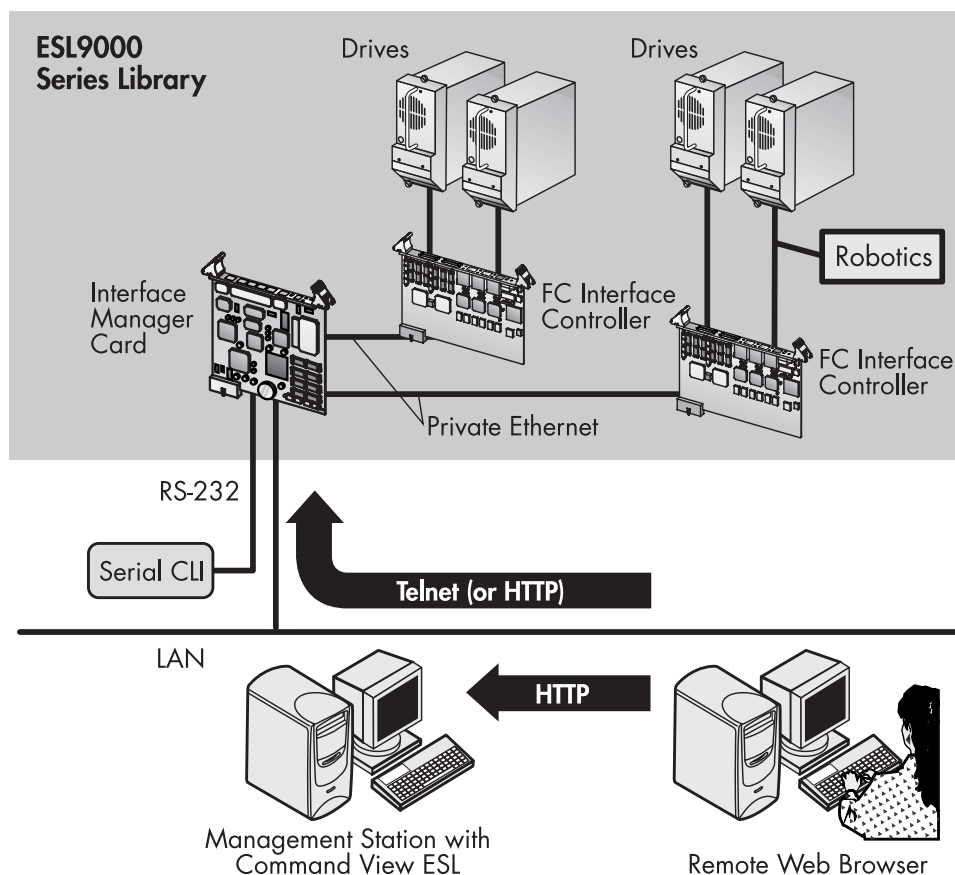
- **Command View ESL**— is a browser-based graphical user interface (GUI). This is the preferred UI for controlling the Interface Manager card and should be used in most circumstances. From any client on the LAN, users can use a browser to access Command View ESL, which is hosted on a management station. For more information on using Command View ESL, see [Command View ESL](#).

## Network configuration overview

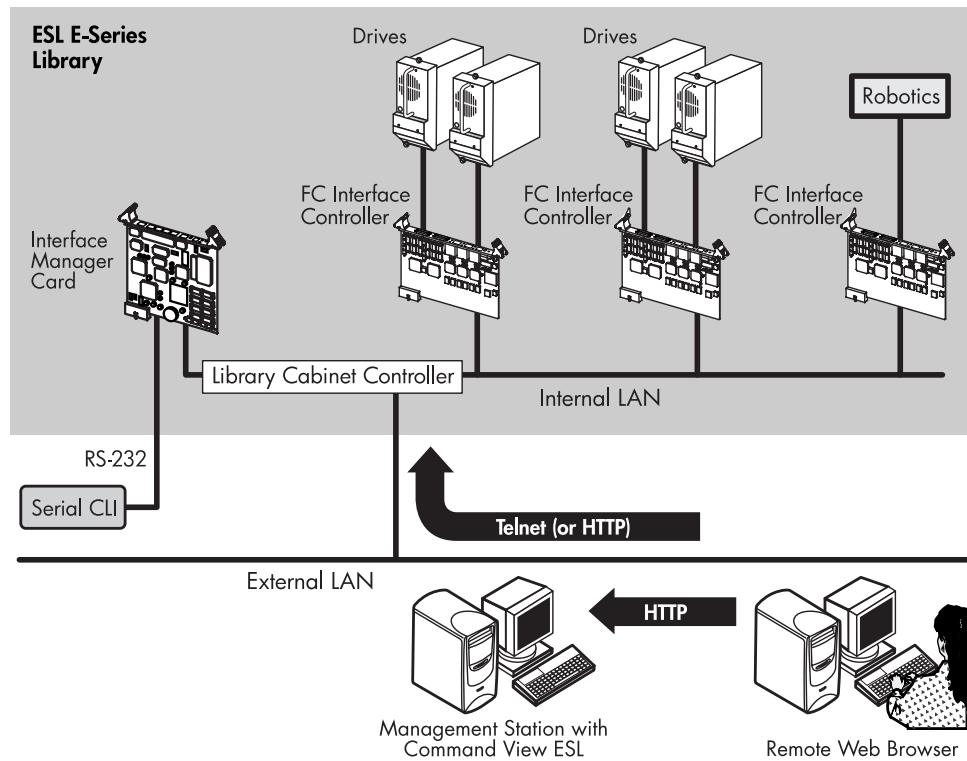
With the ESL9000 Series libraries, the external LAN communicates directly to the Interface Manager card using the card's network IP address. The Interface Manager card processes requests and relays information to the FC interface controllers.

ESL E-Series libraries contain a private LAN internal to the library. The library's cabinet controller provides a bridge between the external LAN and the library's internal LAN and Interface Manager card.

[Figure 1](#) and [Figure 2](#) show how the different UIs communicate with the Interface Manager card in the ESL9000 Series and ESL E-Series libraries respectively.



**Figure 1: Network configuration for ESL9000 Series libraries**



**Figure 2: Network configuration for ESL E-Series libraries**

## Order of precedence of User Interfaces

The order of precedence of the three UIs used with the Interface Manager card is as follows:

1. Serial
2. Telnet
3. Command View ESL

Only one session can be open at a time (serial, Telnet, or Command View ESL). However, it is possible to have multiple Command View ESL GUI clients open simultaneously because these clients all share in the same single session that is running on the management station. If a user attempts to open a session when another session of higher priority is currently open, the system will display an error message and the lower priority session will not start. If a user attempts to open a session when another session of lower priority is currently open, the system warns the user that another session is currently open and asks if it is OK to terminate the lower priority session.



**Caution:** While it is possible for an administrator to terminate other sessions by opening a serial or Telnet session, this is not recommended. If, for example, someone is performing a firmware upgrade using a Command View ESL GUI client and that session is terminated prematurely, the firmware upgrade would fail and could cause the device being upgraded to require physical repair.

---

# Command View ESL

## 2

This chapter explains the installation, configuration, and use of Command View ESL.

## Overview

Command View ESL provides a browser-based graphical user interface (GUI) for remote management and monitoring of your Interface Manager card through a LAN. Command View ESL is the preferred user interface for controlling the Interface Manager card. In conjunction with the Interface Manager card, Command View ESL provides the following:

- Configuration and management of the Interface Manager card and Fibre Channel (FC) interface controllers
- Management of the entire library system
- Hardware inventory and identity information
- Status information for connected hardware
- Error reporting and comprehensive error logs
- Firmware management
- License management

Command View ESL is installed on the management station and communicates with the Interface Manager card through the LAN. The management station processes information from the Interface Manager card and “serves up” the Command View ESL GUI. Users can access Command View ESL, either from the management station directly or through any client on the LAN, by using a browser-based GUI interface. Multiple Command View ESL GUI clients can be open simultaneously across the LAN, and multiple ESL Series libraries can be managed through the Command View ESL software.



## Prerequisites

For the server side, Command View ESL requires a management station (server) with a minimum of:

- Pentium III 500-MHz, 256-MB RAM
- 10/100 Base-T network card (a static IP address is recommended)
- Microsoft® Windows® 2000 Professional or Server edition SP3, Windows XP Professional

For the client side, Command View ESL requires the following:

- Microsoft Internet Explorer v6.0 SP1 or later, or Netscape Navigator v6.2 or later. Make sure that Java support is enabled in the browser.
- An Internet connection is recommended so that Command View ESL can receive firmware and software release information automatically from the HP Support web site.

## Installing Command View ESL

To install Command View ESL:

1. Insert the Command View ESL software CD into the CD-ROM drive of the designated management station.
2. If autorun is disabled on the CD-ROM drive, locate and double-click *setup.exe* on the CD.
3. Follow the instructions on the screen to complete the installation.

Command View ESL is essentially a web server that serves up a GUI interface to web clients. Command View ESL runs on the management station as a service. By default, this service starts automatically whenever the management station is booted, and runs invisibly in the background. In most cases, the default installation settings are adequate.

If you ever need to stop Command View ESL from running on the management station, use the Services applet that is included with Windows. To access the Services applet, click **Start > Settings > Control Panel > Administrative Tools > Services** and locate the Command View ESL service in the list. Use the Services applet to start and stop services, and to set whether the service is started automatically when the computer is booted. Refer to the online help that comes with the Services applet for more information.

## Starting Command View ESL

To start Command View ESL, open your browser, either on the management station or on a client machine on the LAN, and enter the following URL in the address field:

<http://<hostname>:4095/>

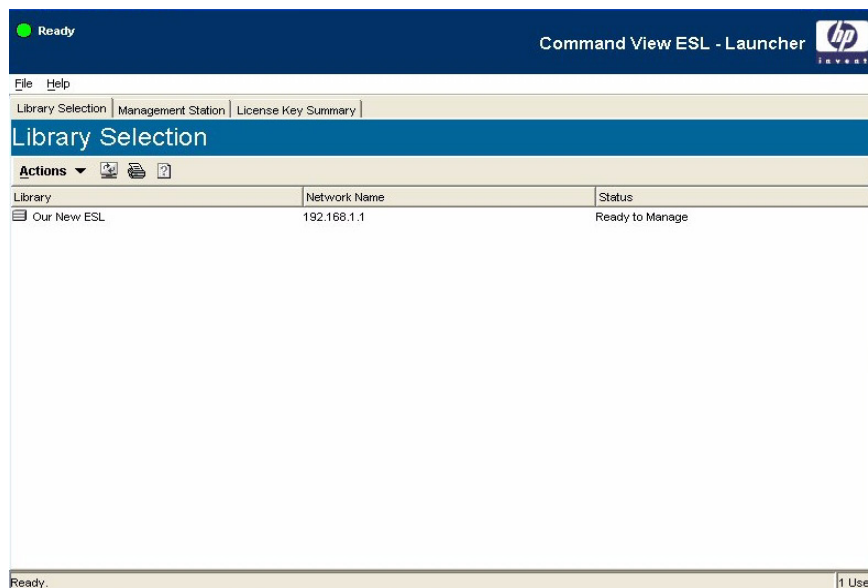
(where *<hostname>* is the IP address or network name of the management station. If you are starting Command View ESL on the management station itself, you can substitute `localhost` for the hostname).

Alternatively, you can start Command View ESL from the Windows Start button:

*Start > Programs > hp Command View ESL > Command View ESL*

If the Java™ Runtime Environment (JRE) plugin is not already installed on your computer and you are using a Windows OS, Command View ESL will attempt to download and install it for you. If you are prompted to install the JRE plugin, click **OK** and follow the instructions on the screen. If you are using a non-Windows OS, you will be instructed how to download and install the JRE plugin. If the JRE plugin is not available, then Command View ESL will not run on that machine.

After the JRE is successfully installed, the Command View ESL **Launcher** screen is displayed.



**Figure 3: Command View ESL Launcher screen**

## Using the launcher screen

As the name implies, the **Launcher** screen is the “launching” point for all Command View ESL operations. The **Launcher** screen has a status indicator in the top left section of the screen, just above the menu bar. This status indicator shows the status of the management station and whether or not communication has been established between the client browser and the management station. On other screens, this status indicator shows the status of the currently selected library.

The **Launcher** screen has the following three tabs:

- **Library Selection tab**—displays a list of libraries that can be managed by Command View ESL. You can add or delete libraries from this list, or select a library to manage.
- **Management Station tab**—lets you configure the network settings of the management station.
- **License Key Summary tab**—provides a convenient way to track and safely store any additional license keys you have purchased for use with the ESL family of tape libraries.

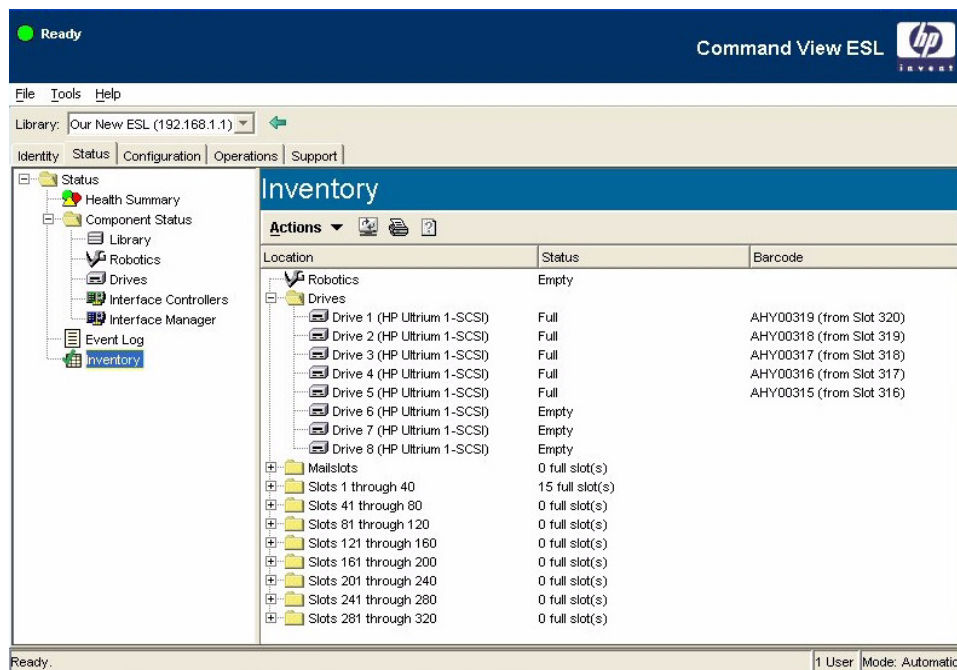
## Navigating Command View ESL

Many screens in Command View ESL are divided vertically into two panels. The left panel contains a list or a treeview showing a hierarchical structure. The right panel displays further information about whichever item is selected in the left panel.

The currently selected library is indicated in the dropdown box just below the main menu bar. You can change the currently selected library at any time by selecting a different library from this dropdown box.

Some screens show data in a columnar format. Depending on the data being displayed, you may be able to drill down to more detailed information by:

- Double-clicking an item in the list
- Right-clicking an item in the list and then selecting an item on the context menu
- Selecting one or more items in the list and then selecting an item on the Actions menu



**Figure 4:** Example of a typical screen showing the two-panel format and columnar data

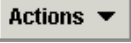




Most screens have an **Actions** button that when clicked displays a menu of actions (the Actions menu) that can be performed from that screen or on the selected item. If a menu item is shown in bold type, then it is the default action for that screen or selected item and can be performed simply by double-clicking that item. In many cases, right-clicking an item displays a context menu that duplicates some or all of the menu items in the Actions menu.



**Caution:** Use the various tabs, menus, and buttons throughout the program to navigate. Do not use the browser's navigation buttons. Doing so may cause loss of configuration data entered on a screen.

Command View ESL also employs several different toolbar buttons that perform different tasks. These buttons may or may not be available depending on the screen you are on. [Table 2](#) lists these buttons and a description of the action performed.

**Table 2: Toolbar buttons**

Button	Description
	<b>Actions</b> —Displays a menu of available actions for the current screen or selected item(s).
	<b>Return</b> —Returns to the <b>Library Selection</b> tab.
	<b>Refresh</b> —Refreshes the data on the current screen.
	<b>Print</b> —Opens the <b>Print</b> dialog box and lets you print the data on the current screen to the selected printer.
	<b>Help</b> —Opens a help topic associated with the current screen.

In addition to the tabs and buttons found throughout the program, Command View ESL also has a menu bar. For the most part, these menu items duplicate the functionality of the buttons shown in [Table 2](#) and do not require further explanation.

## Device numbering conventions

In some instances, Command View ESL numbers devices differently than they are numbered on the ESL tape library front panel. For example, if the library contains eight drives, the ESL9000 Series library front panel refers to those drives as drive 0 through 7. Command View ESL refers to the same drives as drive 1 through 8.

**Table 3** shows the device numbering conventions used by Command View ESL and by the ESL tape library front panel (when applicable). The ESL tape library front panel does not reference the FC interface controllers or their associated FC port numbers and SCSI bus numbers. Command View ESL uses one-based numbering to refer to the FC interface controllers, but it uses zero-based numbering for the FC port numbers and SCSI bus numbers, corresponding with the numbers that are printed on the actual hardware.

**Table 3: Device Numbering Conventions**

Device	Command View ESL	ESL9000 Series Front Panel	ESL E-Series Front Panel
Drives	One-based	Zero-based	One-based
Drive clusters	n/a	n/a	Zero-based *
Slots	One-based	Zero-based	n/a

---

**Note:** \* Drive clusters in the ESL E-Series libraries are zero-based, although they are not referred to from the front panel of the library.

---

## Initial configuration steps

After you have successfully installed the Interface Manager card and started Command View ESL:

1. Set the administrative password for Command View ESL. See [Administrative password](#).
2. Verify that proxy settings for the management station are correct. See [Network settings](#).
3. Add all libraries to Command View ESL that will be monitored. See [Adding or removing a library](#).
4. Add the license key for Command View ESL and any additional features that you have purchased. See [License Key Summary tab](#).
5. Configure the following for each library. See [Configuring a library](#).
  - Library name
  - System date
  - System time
  - Time zone
  - System contact name
  - System contact phone number
  - System contact pager number
  - System contact e-mail address
  - System location
  - System asset number
6. Configure host access (Secure Manager). By default, Secure Manager prevents all hosts from accessing the library. You must configure Secure Manager to allow host access to the library. See [Using Secure Manager for ESL](#).



## Other common Command View ESL functions

The following list provides quick links to several of the most common functions performed by Command View ESL.

- [Adding or removing a library](#)
- [Configuring a library](#)
- [Configuring the Fibre Channel interface controllers](#)
- [Monitoring device status](#)
- [Viewing the event log](#)
- [Viewing inventory of the library](#)
- [Updating firmware](#)
- [Using the License Manager](#)

## Adding or removing a library

You must add all libraries that will be monitored by Command View ESL. This IP address can be set through the Interface Manager card's serial interface or cascade port or, on ESL E-Series libraries, through the library's Operator Control Panel (OCP).

---

**Note:** For more information about getting or setting the library IP address, ESL9000 Series users see "Getting or Setting the Interface Manager IP Address" in the *HP StorageWorks Interface Manager and Command View ESL Installation Guide*. ESL E-Series users should see the *HP StorageWorks ESL E-Series Tape Library Unpacking and Installation Guide*.

---

To add a library:

1. From the **Library Selection** tab of the **Launcher** screen, click **Actions > Add Library...** to display the **Add Library** dialog box.
2. Enter the IP address or hostname of the Interface Manager card in the library to be added and click **OK**.

To remove a library:

1. Select the library to be removed.
2. Click **Actions > Remove Library**.

3. On the **Confirm Library Removal** dialog, click **Yes** to confirm the deletion.

## Configuring a library

1. From the **Library Selection** tab of the **Launcher** screen, double-click the library that you want to configure.
2. Click the **Configuration** tab.
3. To configure the library properties:
  - a. Click the **Library Properties** item in the treeview to display properties for the selected library. The **Library Properties** screen displays the following groups of information:
    - Library Name
    - System Date/Time
    - Contact Information
  - b. Select **Edit Library Name...**, **Edit System Date/Time...**, or **Edit Contact Information...** as needed from the **Actions** menu. A dialog box is displayed allowing you to edit the desired properties.
  - c. Make the required changes and click **OK**. The library properties are stored in the memory of the Interface Manager card.
4. To configure the network (TCP/IP) settings of the library:
  - a. Click the **TCP/IP** item in the treeview to display the **TCP/IP** configuration screen. The following information pertaining to the selected Interface Manager card is displayed (only the network settings can be edited):
    - Network Settings
      - Hostname
      - Address Configuration
      - IP Address
      - Subnet Mask
      - Gateway
      - DNS Domain Name
      - DNS Addresses

- **MAC Settings**
  - **MAC Address**
  - **Link Selection**
- b. If necessary, obtain the required network settings from your network administrator.
- c. Click **Actions > Edit Network Settings...** to display the **Network Settings** dialog box.
- d. Make the changes as required and click **OK**.

## Configuring the Fibre Channel interface controllers

To edit the FC port settings:

1. From the **Library Selection** tab of the **Launcher** screen, double-click the library hosting the FC interface controllers that you want to configure.
2. Click the **Configuration** tab.
3. Click the **Connection Properties** item under Interface Settings in the treeview to display the **Connection Properties** screen. The first column of this screen shows the FC interface controllers that are connected to the Interface Manager card. The FC ports are shown under their respective FC interface controller.
4. Select an FC port. In Automatic mode, it does not matter which FC port is selected because the changes you make apply to all FC ports. In Manual mode, each FC port can be configured independently.
5. Click **Actions > Edit Port Connection Settings...** to display the **Port Connection Settings** dialog box.
6. Set the Port Connection Type to one of the following:
  - **Fabric (SAN) Attach**—Use this connection type when connecting all FC ports to an FC switch.
  - **Direct Attach**—Use this connection type when connecting all FC ports to a Host Bus Adapter (HBA) on a backup server.
7. Set the Port Speed. Use the maximum speed that your SAN infrastructure supports.
8. Click **OK** to save the changes.

## Monitoring device status

1. From the **Library Selection** tab of the **Launcher** screen, double-click the library that you want to monitor.
2. Click the **Status** tab.
3. To view a comprehensive health summary of the library and all its component devices, click the **Health Summary** item in the treeview.

The first column of the health summary displays each component of the library in a hierarchical treeview. Each component is shown with a green, yellow, or red status symbol that enables you to see at a glance if any components need attention. The second column describes the health of the component, and the third column provides additional information that may be useful if there is a problem with the component.

The screenshot shows the Command View ESL interface. At the top, there's a status bar with a green circle and the word 'Ready'. Below it is a menu bar with 'File', 'Tools', and 'Help'. A toolbar shows 'Library: Our New ESL (192.168.1.1)' and a refresh icon. Below the toolbar is a tabbed interface with 'Identity', 'Status', 'Configuration', 'Operations', and 'Support'. The 'Status' tab is active, showing a treeview on the left. The treeview has a root 'Status' node with sub-nodes: 'Health Summary' (selected), 'Cabling View', 'Component Status', 'Library', 'Robotics', 'Drives', 'Interface Controllers', 'Event Log', and 'Inventory'. The 'Health Summary' node is expanded, showing a table with the following data:

Component	Health	Description
Interface Manager	Ready	No errors detected
Robotics	Ready	No errors detected
Drives		
Drive 1 (HP Ultrium 1-SCSI)	Ready	No errors detected
Drive 2 (HP Ultrium 1-SCSI)	Ready	No errors detected
Drive 3 (HP Ultrium 1-SCSI)	Ready	No errors detected
Drive 4 (HP Ultrium 1-SCSI)	Ready	No errors detected
Drive 5 (HP Ultrium 1-SCSI)	Ready	No errors detected
Drive 6 (HP Ultrium 1-SCSI)	Ready	No errors detected
Drive 7 (HP Ultrium 1-SCSI)	Ready	No errors detected
Drive 8 (HP Ultrium 1-SCSI)	Ready	No errors detected
Interface Controllers		
FC Interface Controller 1	Ready	No errors detected
FC Interface Controller 2	Ready	No errors detected
Interface Manager	Ready	No errors detected

At the bottom of the window, there's a status bar showing 'Ready.', '1 User', and 'Mode: Automatic'.

**Figure 5: Health Summary screen**

4. To view detailed status of an individual device, in the **Component Status** group of the treeview, click the icon for the component you want to view status of.




Relevant information for that component is displayed in the right panel. The information displayed varies depending on the component selected. In the right panel, you can double-click a component to display properties of the component.

---

**Note:** The **Health Summary** screen is automatically updated whenever the status of the library changes.

---

## Viewing the event log

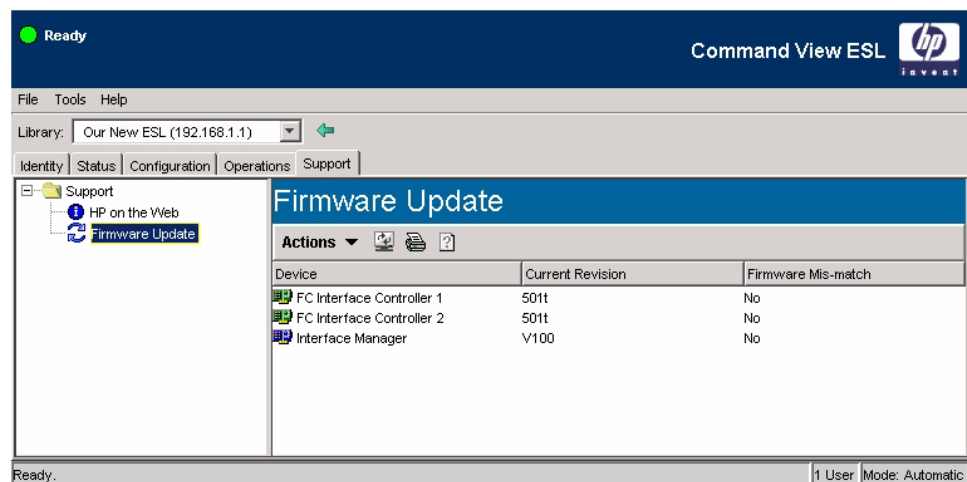
1. From the **Library Selection** tab of the **Launcher** screen, double-click the desired library.
2. Click the **Status** tab.
3. Click the **Event Log** item in the treeview to display the event log. The following information is displayed for each event:
  - **Timestamp**—the time that the event was recorded
  - **Event Description**—a brief description of the event
  - **Source**—the device that triggered the event
  - **Severity**—displays one of the following icons indicating the type of the event:
    -  **Critical**—may prevent normal operations of the library and must be addressed immediately.
    -  **Warning**—does not require immediate attention but should be addressed as soon as possible.
    -  **Information**—presents information the user should be aware of but does not require immediate attention.
4. Double-click an event to display the event in a popup box. The popup box displays the same information as shown above.

## Viewing inventory of the library

1. From the **Library Selection** tab of the **Launcher** screen, double-click the desired library.
  2. Click the **Status** tab.
  3. Click the **Inventory** item in the treeview to display the **Inventory** screen.
- For more information about the **Inventory** screen, see [Inventory](#).

## Updating firmware

1. From the **Library Selection** tab of the **Launcher** screen, double-click the desired library.
2. Click the **Support** tab.
3. Click the **Firmware Update** item in the left panel to display the **Firmware Update** screen. The first column of the **Firmware Update** screen displays the Interface Manager card and all FC interface controllers that are connected to the Interface Manager card. The second column displays the current firmware revision of the corresponding device, and the third column indicates whether this is the correct firmware revision or a mismatch for the corresponding device.



**Figure 6: Firmware Update screen**

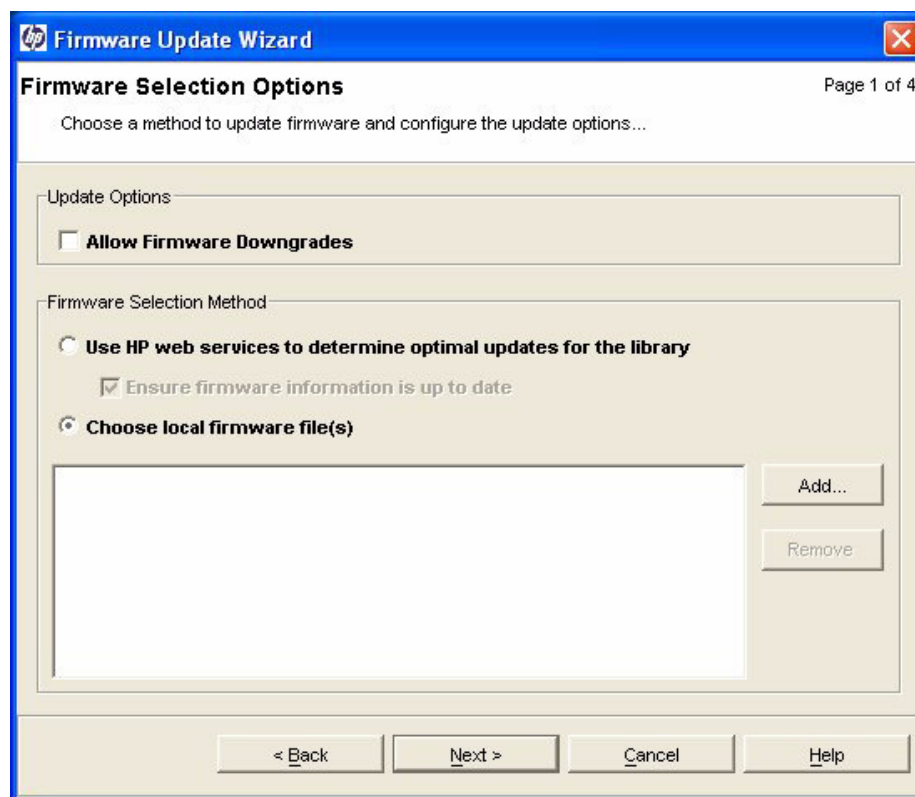
Command View ESL provides a convenient Firmware Update wizard enabling you to easily manage the firmware revisions of the Interface Manager card and connected FC interface controllers.



**Caution:** Make sure that all applications that may try to access the library or drives have been shut down until the firmware update is completed. Do not interrupt the firmware update process. Stopping this program or powering down the device during the update could cause the device to be inoperable and require physical repair.

To update firmware:

1. Click **Actions > Launch Firmware Update Wizard...** to launch the Firmware Update wizard.



**Figure 7: Firmware Update wizard**

2. Decide whether to allow firmware downgrades. By default, firmware downgrades are not allowed meaning that only newer firmware versions can be uploaded to your hardware.

If you need to allow firmware downgrades (if, for example, a newer firmware version is causing problems and you want to revert back to an older version that was known to work properly), select **Allow Firmware Downgrades**.

3. Choose one of the following options:

- **Use HP web services to determine optimum updates for the library**—This option causes Command View ESL to check the HP Support web site for all compatible firmware files. If you select **Ensure firmware information is up to date** (recommended), then Command View ESL will download the latest list of supported hardware with current firmware revisions and saves it locally on the management station. This list is updated every 24 hours on the HP Support web site, so checking this option ensures that Command View ESL is up-to-date on all the latest firmware revisions.

- a. Click **Next >** to display the **Device Selection** screen.

- b. Proceed to [step 4](#).

- **Choose local firmware file(s)**—This option lets you choose firmware files that are stored locally.

- a. Click **Add...** to browse to the firmware file(s). To select multiple files in the same directory, hold down **Ctrl** while selecting the files. Click **Select** to return to the **Firmware Selection Method** screen.

- b. Click **Next >** to display the **Device Selection** screen.

4. Select the device(s) to be updated in the left column. The current revision for each device is displayed in the middle column.
5. For each selected device, select the appropriate firmware revision from the drop down box in the right column.
6. Click **Next >** to display the **Firmware Update Summary** screen.
7. Confirm the firmware update selections and select **I understand that this update will cause currently running backups to fail**.
8. Click **Next >** to display the Firmware Update Progress screen. This screen displays the progress of the firmware update. When complete, a dialog box displays the status of the update. Click **OK** to close the dialog box.
9. Click **Finish** to exit the wizard.



## Using the License Manager

To access the License Manager, click the **License Key Summary** tab on the **Launcher** screen. See [License Key Summary tab](#) for more information.

## Library Selection tab

The **Library Selection** tab displays a list of libraries that can be managed by Command View ESL. From this tab, you can add and delete libraries or select a library to be managed. Selecting a library to manage lets you drill down to the individual components or other aspects of the library that you want to work with.

### Adding and removing libraries

You must add all libraries that will be monitored by Command View ESL. When adding a library, you are actually adding a reference to the Interface Manager card within that library. To add a library:

1. From the **Library Selection** tab of the **Launcher** screen, click **Actions > Add Library...** to display the **Add Library** dialog box.
2. Enter the IP address or hostname of the Interface Manager card in the library to be added and click **OK**.

---

**Note:** For each library, the status column displays the name of the management station that is managing the library.

---

To remove a library:

1. Select the library to be removed.
2. Click **Actions > Remove Library**.
3. On the **Confirm Library Removal** dialog, click **Yes** to confirm the deletion.

### Managing libraries

To manage a library:

1. Select the library to manage.
2. Click **Actions > Manage Library**. Alternatively, you can right-click the desired library and click **Manage Library** on the context menu.

When you select a library to manage, the currently selected library is displayed in a dropdown box immediately below the main menu bar. You can easily change the currently selected library at any time by selecting a different library from this dropdown box.

---

**Note:** If you select a library to manage that is already managed by another management station on which Command View ESL is installed, a dialog box is displayed asking if you want to reclaim the library.

---

When a library has been selected for management, a new screen is displayed with the following five tabs:

- **Identity tab**—displays summary information about the currently selected library.
- **Status tab**—displays a treeview in the left panel showing a hierarchical view of the library and its components. The right panel displays status information about whichever item is selected in the left panel. From the **Status** tab, you can also view a health summary of the entire library, view an event log, or view the inventory of the library.
- **Configuration tab**—lets you configure library properties, interface settings, and network settings. You can also configure HP StorageWorks Direct Backup Engine for ESL and HP StorageWorks Secure Manager for ESL (assuming the appropriate licenses have been purchased for those features).
- **Operations tab**—provides a convenient way to reboot the library.
- **Support tab**—provides useful resources for finding support. From the **Support** tab, you can also update firmware.

## Identity tab

The **Identity** tab displays summary information and a photo of the currently selected library. This tab is useful when you need to quickly find information pertaining to a library, such as the number of drives or interface controllers it contains. Another use for the **Identity** tab is finding the library serial number, which is required when ordering any of the optional, licensable features of the ESL Series library (see [Advanced Features](#) for more information about additional licensable features).

## Status tab

The **Status** tab uses the traditional two-panel interface to show status information about the selected library. The left panel displays a hierarchical treeview of the selected library, and the right panel displays information pertaining to the item selected in the left panel.

The currently selected library is indicated in the dropdown box just below the main menu bar. You can change the currently selected library at any time by selecting a different library from this dropdown box.

The **Status** tab displays four types of information that can be accessed from the treeview:

- [Health Summary](#)
- [Component Status](#)
- [Event log](#)
- [Inventory](#)

### Health Summary

Click the **Health Summary** item in the tree view to display a comprehensive health summary of the selected library in the right panel. The first column of the health summary displays each component of the library in a hierarchical treeview. Each component is shown with a green, yellow, or red status symbol that enables you to see at a glance if any components need attention. The second column describes the health of the component, and the third column provides additional information that may be useful if there is a problem with the component.

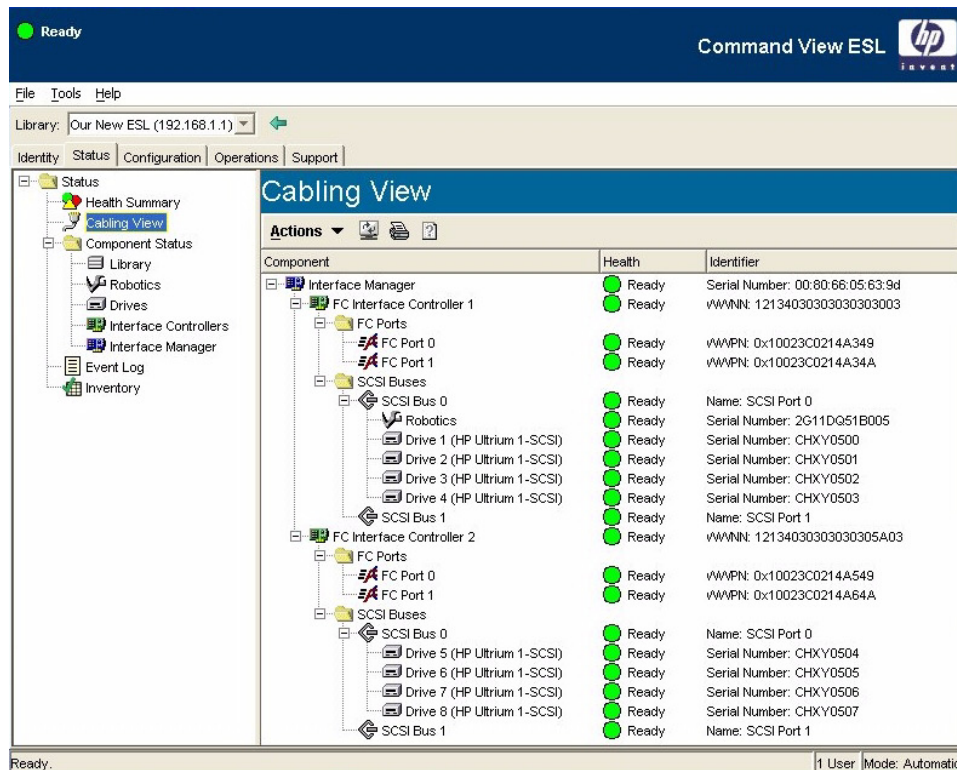
The screenshot shows the Command View ESL interface. The top bar indicates 'Ready' and 'Command View ESL'. The left sidebar shows a tree view with 'Health Summary' selected. The main panel displays a table titled 'Health Summary' with columns for Component, Health, and Description.

Component	Health	Description
Interface Manager	Ready	No errors detected
Robotics	Ready	No errors detected
Drives		
Drive 1 (HP Ultrium 1-SCSI)	Ready	No errors detected
Drive 2 (HP Ultrium 1-SCSI)	Ready	No errors detected
Drive 3 (HP Ultrium 1-SCSI)	Ready	No errors detected
Drive 4 (HP Ultrium 1-SCSI)	Ready	No errors detected
Drive 5 (HP Ultrium 1-SCSI)	Ready	No errors detected
Drive 6 (HP Ultrium 1-SCSI)	Ready	No errors detected
Drive 7 (HP Ultrium 1-SCSI)	Ready	No errors detected
Drive 8 (HP Ultrium 1-SCSI)	Ready	No errors detected
Interface Controllers		
FC Interface Controller 1	Ready	No errors detected
FC Interface Controller 2	Ready	No errors detected
Interface Manager	Ready	No errors detected

**Figure 8: Health Summary screen**

## Cabling View

Devices are displayed hierarchically by physical connection in the **Cabling View** screen, which shows the same information as the **Health Summary** screen.



**Figure 9: Cabling View screen**

## Component Status

The Component Status function displays the current status of the following library components individually:

- Library
- Robotics
- Drives
- Interface Controllers
- Interface Manager

Click the icon for the component you want to view status of in the treeview in the left panel. Relevant information for that component is displayed in the right panel. The information displayed varies depending on the component selected.




---

**Note:** You can double-click a component in the right panel to display properties of the component.

---

### Event log

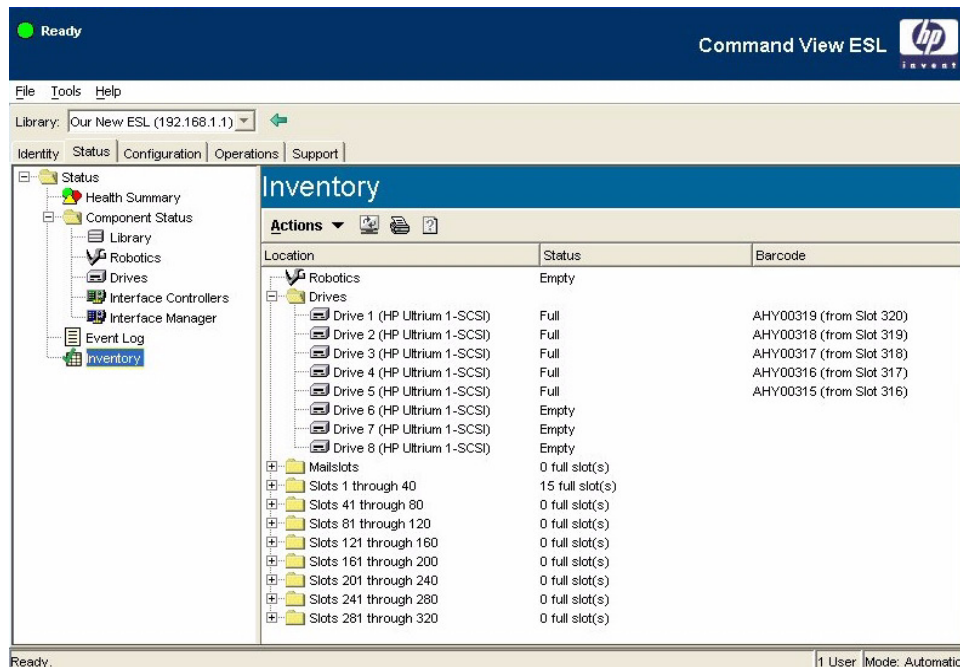
The following information is displayed for each event in the event log:

- Timestamp—the time that the event was recorded
- Event Description—a brief description of the event
- Source—the device that triggered the event
- Severity—displays one of the following icons indicating the type of the event:
  -  **Critical**—may prevent normal operations of the library and must be addressed immediately.
  -  **Warning**—does not require immediate attention but should be addressed as soon as possible.
  -  **Information**—presents information the user should be aware of but does not require immediate attention.

Double-click an event to display the event in a popup box. The popup box displays the same information as shown above.

## Inventory

The **Inventory** screen shows how tape cartridges are distributed throughout the library.



**Figure 10: Inventory screen**

The Location column displays all of the possible locations for tape cartridges in treeview format. For simplicity, all of the drives are grouped under the **Drives** folder, mailslots are grouped under the **Mailslots** folder, and slots are grouped in eight **Slots** folders. Each **Slots** folder can have up to 40 slots. By default, the **Drives** folder is expanded, and all of the **Slots** folders are collapsed. Click the plus sign (+) to expand a group and the minus sign (-) to collapse a group.

The Status column indicates whether the corresponding location is full (contains a tape cartridge) or empty. If the corresponding location is a group folder, then the Status column displays how many locations in that group are full. In the example shown in [Figure 10](#), the folder containing slots 1 through 40 shows that 15 slots are full. To see exactly which slots are full, click the plus sign (+) to expand the group. Each individual slot is then displayed underneath the folder, and the Status column will display Full or Empty for each slot.

For each full location, the Barcode column shows the unique barcode identifier for the tape cartridge in that location. To quickly locate a particular tape cartridge:

1. Click **Actions > Find Barcode...** to display the **Find Barcode** dialog box.
2. Enter the identifier for the tape cartridge you are searching for.
3. If you want the search to be case sensitive, select the **Match case** checkbox.
4. Click **OK** to perform the search.

If the cartridge you are looking for is found, it is highlighted in the display. If the cartridge is part of a collapsed group, the group is automatically expanded.

## Configuration tab

The **Configuration** tab uses the traditional two-panel interface to show configuration settings for the selected library. The left panel displays a hierarchical treeview of the selected library, and the right panel displays information pertaining to the item selected in the left panel.



**Caution:** Some configuration changes may require a reboot of the Interface Manager card. If a reboot is required, a dialog box is displayed allowing you to confirm or cancel the action. To prevent data loss, make sure that all backup jobs are complete before making any configuration changes that may require a reboot.

---

The currently selected library is indicated in the dropdown box just below the main menu bar. You can change the currently selected library at any time by selecting a different library from this dropdown box.

The **Configuration** tab displays five types of information that can be accessed from the treeview:

- [Library Properties](#)
- [Interface Settings](#)
- [Host Access \(Secure Manager\)](#)
- [Direct Backup](#)
- [Network settings](#)



## Library Properties

Click the Library Properties item in the treeview to display properties for the selected library. The **Library Properties** screen displays the following groups of information:

- Library Name
- System Date/Time
- Contact Information

To edit the library properties:

1. Select **Edit Library Name...**, **Edit System Date/Time...**, or **Edit Contact Information...** as needed from the **Actions** menu. A dialog box is displayed allowing you to edit the desired properties.
2. Make the required changes and click **OK**. The library properties are stored in the memory of the Interface Manager card.

## Interface Settings

The Interface Settings consist of two items:

- [Interface Manager mode](#)
- [Connection Properties](#)

### *Interface Manager mode*

The Interface Manager mode setting controls the behavior of the Interface Manager card and dictates how the FC interface controllers are configured. HP strongly recommends that you leave the Interface Manager mode set to the default setting of Automatic.

In Automatic mode, the Interface Manager card ensures that the library is configured correctly and consistently across all FC interface controllers. In the event of a field-replaceable unit (FRU) replacement, advanced logic is enabled to maintain consistent firmware revisions and to present a consistent device map to backup servers.

In Manual mode, each FC interface controller is configured independently. The Interface Manager card does not provide consistency checking or FRU replacement logic.



**Caution:** HP strongly recommends that you leave the Interface Manager mode set to the default setting of Automatic. Using Manual mode increases the risk of making serious configuration errors and causing hardware conflicts which can severely disrupt the normal operation of the library.

---

To change the Interface Manager mode:

1. Click the Interface Manager Mode item in the treeview to display the **Interface Manager Mode** screen.
2. Click **Actions > Edit Interface Manager Mode...** to display the Interface Manager Mode dialog box.
3. Change the mode as required and click **OK**.

### ***Connection Properties***

Click the **Connection Properties** item in the treeview to display the **Connection Properties** screen. This screen displays connection properties for the FC interface controllers. The first column of this screen shows the FC interface controllers that are connected to the Interface Manager card. The FC ports are shown under their respective FC interface controller. The remaining columns display the following information pertaining to the FC ports:

- World Wide Name
- Connection Type
- Port Mode
- Hard ALPA
- Speed (Gbps)

Only the connection type and speed of the ports can be set manually. The remaining items are configured automatically by the Interface Manager card. If you make changes to one FC port, those changes are applied to all the FC ports on all the FC interface controllers in the library.

To edit the FC port settings:

1. Select any FC port. It does not matter which FC port is selected because the changes you make apply to all FC ports.
2. Click **Actions > Edit Port Connection Settings...** to display the **Port Connection Settings** dialog box.
3. Set the Port Connection Type to one of the following:

- **Fabric (SAN) Attach**—Use this connection type when connecting all FC ports to an FC switch.
  - **Direct Attach**—Use this connection type when connecting all FC ports directly to a Host Bus Adapter (HBA) on a backup server.
4. Set the Port Speed. Use the maximum speed that your SAN infrastructure supports.
  5. Click **OK** to save the changes.

### **Host Access (Secure Manager)**

Click the **Host Access** item in the treeview to display the **Host Access** configuration screen. HP StorageWorks Secure Manager for ESL enables advanced security functions to protect your library from disruptive SAN traffic. Basic Secure Manager functions are enabled in every copy of Command View ESL, but full-featured functionality must be licensed separately. For more information, see [Secure Manager for ESL](#).

### **Direct Backup**

Click the **Direct Backup** item in the treeview to display the **Direct Backup** configuration screen. HP StorageWorks Direct Backup Engine for ESL enables fast, serverless backup functionality through the FC interface controllers and Interface Manager card. Direct Backup must be licensed separately. For more information, see [Direct Backup Engine for ESL](#).

## Network settings

The network settings consist of two items:

- [TCP/IP](#)
- [SNMP Alerts](#)

### *TCP/IP*

Click the **TCP/IP** item in the treeview to display the **TCP/IP** configuration screen. The following information pertaining to the selected library's Interface Manager card is displayed:

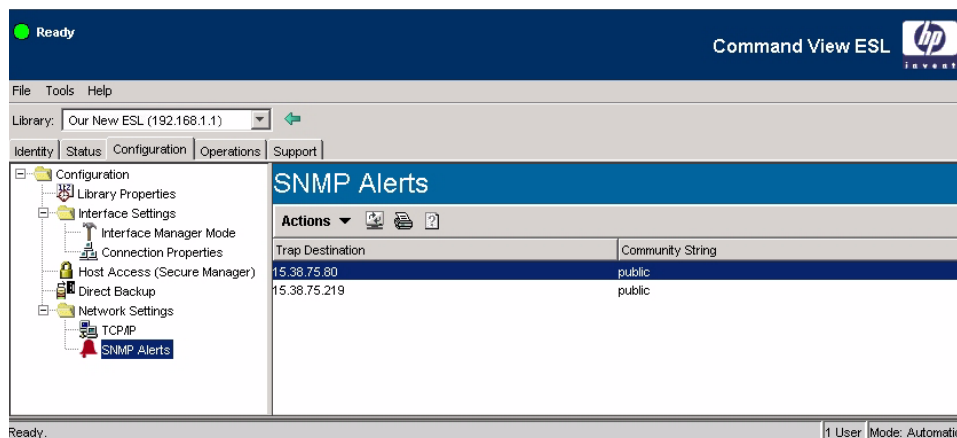
- Network Settings
  - Hostname
  - Address Configuration
  - IP Address
  - Subnet Mask
  - Gateway
  - DNS Domain Name
  - DNS Addresses
- MAC Settings
  - MAC Address
  - Link Selection

Only the network settings can be edited. To edit the network settings:

1. If necessary, obtain the required network settings from your network administrator.
2. Click **Actions > Edit Network Settings...** to display the **Network Settings** dialog box.
3. Make the changes as required and click **OK**.

## ***SNMP Alerts***

Click the **SNMP Alerts** item in the treeview to display the **SNMP Alerts** screen.



**Figure 11: SNMP Alerts screen**

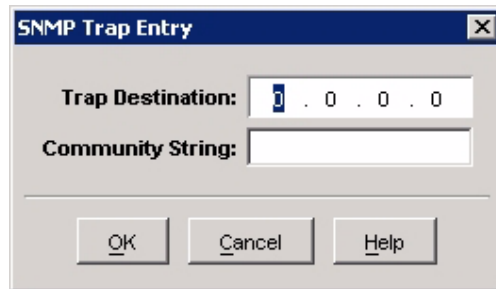
Simple Network Management Protocol (SNMP) is a well-defined standard of reporting device information through a network. The Interface Manager card has a built-in SNMP agent that supports queries to MIB-II in addition to SNMP traps/alerts.

Command View ESL lets you change the following common SNMP settings:

- **Trap Destinations**—IP addresses of hosts or applications that need to receive SNMP alerts/traps from the Interface Manager card. A trap receiver is an SNMP-enabled machine on the LAN that decodes and logs SNMP traps. Up to eight trap destinations can be specified.
- **Community String**—the plain-text community string or password required by SNMP clients to read or write SNMP MIB values.

To add a new SNMP trap entry:

1. If necessary, obtain the required network settings from your network administrator.
2. Click **Actions > Add Trap Entry...** to display the **SNMP Trap Entry** dialog box.



**Figure 12: SNMP Trap Entry dialog box**

3. Enter the Trap Destination and Community String and click **OK**.

To edit an existing trap entry:

1. Select the trap entry to be modified.
2. Click **Actions > Edit Trap Entry...** to display the **SNMP Trap Entry** dialog box.
3. Modify the Trap Destination and Community String as necessary and click **OK**.

To remove an existing trap entry:

1. Select the trap entry to be removed.
2. Click **Actions > Remove Trap Entry**.
3. Click **Yes** in the confirmation dialog box to confirm the deletion.

## Operations tab

The **Operations** tab currently only supports the reboot function. Click the **Reboot** item in the left panel to display the **Reboot** screen. The first column of the **Reboot** screen displays the Interface Manager card and all FC interface controllers that are connected to the Interface Manager card. The second column indicates whether or not a reboot is required for the corresponding device.



**Caution:** Rebooting a device will terminate any operations that device may be performing. To avoid loss of data, make sure that all backup jobs or other operations have completed before attempting to reboot any device.

---

To reboot a single device:

1. Select the device to be rebooted.
2. Click **Actions > Reboot Selected Device**.
3. Confirm that you want to reboot the device in the confirmation warning dialog.

To reboot all devices in the list:

1. Click **Actions > Reboot All**.
2. Confirm that you want to reboot all the devices in the confirmation warning dialog.

## Support tab

The **Support** tab supports the following two functions:

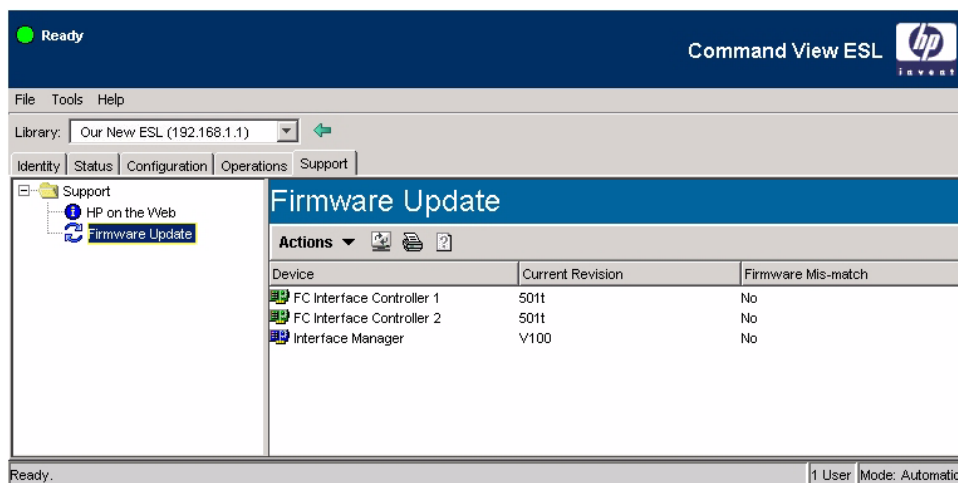
- [HP on the Web](#)
- [Firmware Update](#)

### HP on the Web

Click the **HP on the Web** item in the left panel to display the **HP on the Web** screen. This screen displays HP support information.

### Firmware Update

Click the **Firmware Update** item in the left panel to display the **Firmware Update** screen. The first column of the **Firmware Update** screen displays the Interface Manager card and all FC interface controllers that are connected to the Interface Manager card. The second column displays the current firmware revision of the corresponding device, and the third column indicates whether this is the correct firmware revision or a mismatch for the corresponding device.



**Figure 13: Firmware Update screen**

Command View ESL provides a convenient Firmware Update wizard enabling you to easily manage the firmware revisions of the Interface Manager card and connected FC interface controllers.

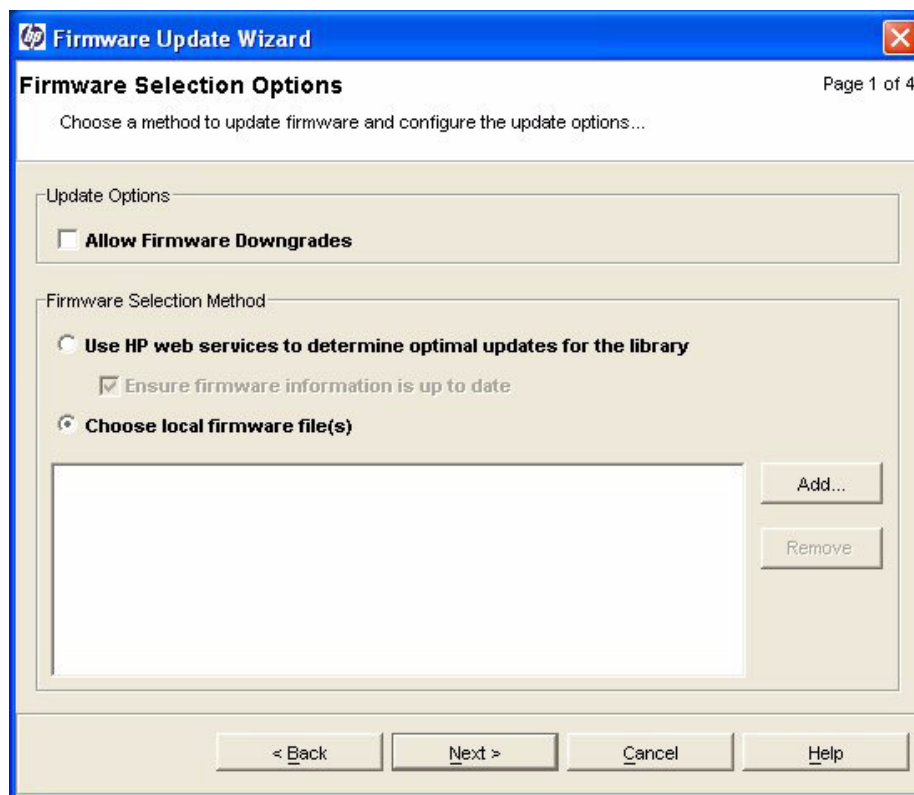


**Caution:** Make sure that all applications that may try to access the library or drives have been shut down until the firmware update is completed. Do not interrupt the firmware update process. Stopping this program or powering down the device during the update could cause the device to be inoperable and require physical repair.

To update firmware:

1. Click **Actions > Launch Firmware Update Wizard...** to launch the Firmware Update wizard.





**Figure 14: Firmware Update wizard**

2. Decide whether or not to allow firmware downgrades. By default, firmware downgrades are not allowed meaning that only newer firmware versions can be uploaded to your hardware.

If you need to allow firmware downgrades (if, for example, a newer firmware version is causing problems and you want to revert back to an older version that was known to work properly), select **Allow Firmware Downgrades**.

3. Choose one of the following options:
  - **Use HP web services to determine optimum updates for the library**—This option causes Command View ESL to check the HP Support web site for all compatible firmware files. If you select **Ensure firmware information is up to date** (recommended), then Command View ESL will download the latest list of supported hardware with current firmware revisions and saves it locally on the management

station. This list is updated every 24 hours on the HP Support web site, so checking this option ensures that Command View ESL is up-to-date on all the latest firmware revisions.

- a. Click **Next >** to display the **Device Selection** screen.
- b. Proceed to [step 4](#).
- **Choose local firmware file(s)**—This option lets you choose firmware files that are stored locally.
  - a. Click **Add...** to browse to the firmware file(s). To select multiple files in the same directory, hold down **Ctrl** while selecting the files. Click **Select** to return to the **Firmware Selection Method** screen.
  - b. Click **Next >** to display the **Device Selection** screen.
4. Select the device(s) to be updated in the left column. The current revision for each device is displayed in the middle column.
5. For each selected device, select the appropriate firmware revision from the drop down box in the right column.
6. Click **Next >** to display the **Firmware Update Summary** screen.
7. Confirm the firmware update selections and select **I understand that this update will cause currently running backups to fail**.
8. Click **Next >** to display the Firmware Update Progress screen. This screen displays the progress of the firmware update. When complete, a dialog box displays the status of the update. Click **OK** to close the dialog box.
9. Click **Finish** to exit the wizard.

## Management Station tab

The **Management Station** tab displays the network settings of the management station and Command View ESL, and whether or not an administrative password has been set.

### Network settings

To edit the network settings of the management station:

1. Click **Actions > Edit Network Settings...** to display the **Network Settings** dialog box.
2. Set the required proxy settings. If you choose to use proxy settings, enter the web proxy hostname and web proxy port. If necessary, consult your network administrator for this information.

---

**Note:** Command View ESL uses proxy settings to retrieve software and firmware information through the Web. Command View ESL attempts to detect the management station proxy settings at startup, but it does not use these proxy settings until instructed to do so.

---

3. Set the web server port. The default setting is 4095, which should not need to be changed. If you do change this value, the new value does not take effect until the next time a GUI is started; the current GUI is unaffected. This value can be viewed in the content pane of the **Management Station** tab.
4. Set the active IP address for the management station. The active IP address is the one used by the management station to communicate with clients and libraries.
5. Click **OK** to save your changes.

---

**Note:** Changing the active IP address will terminate the current GUI session. To restart the GUI session, enter the new active IP address in the address field of the browser.

---

## Administrative password

The administrative password prevents unauthorized users from accessing critical Interface Manager and library configurations. The administrative password is disabled by default.

To set the administrative password:

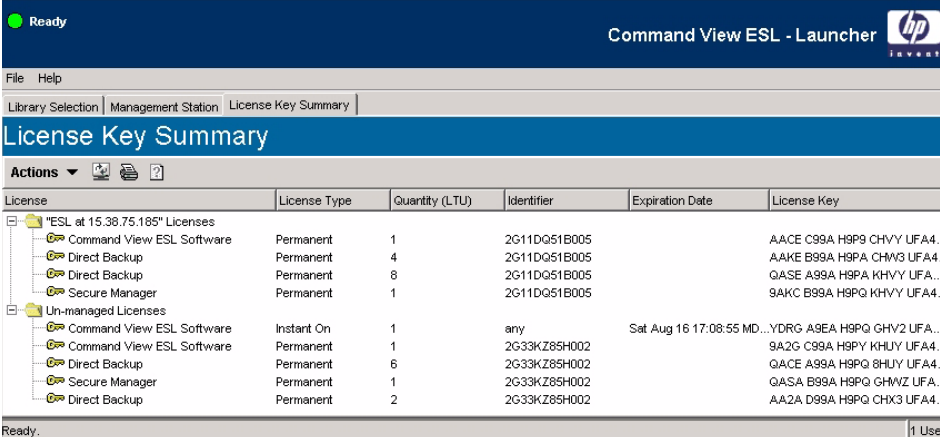
1. Click **Actions > Edit Administrative Password...** to display the **Administrative Password** dialog box.
2. Select the **Require Login Authentication** checkbox if it is not already selected.
3. If a password was previously set, enter the current password.
4. Enter the new password and then confirm the new password in the respective textboxes.

To disable the administrative password:

1. Click **Actions > Edit Administrative Password...** to display the **Administrative Password** dialog box.
2. Deselect the **Require Login Authentication** checkbox.
3. If a password was previously set, enter the current password.
4. Leave the new password field blank, and then confirm the blank password in the respective textboxes.

## License Key Summary tab

The **License Key Summary** screen shows a summary of all the license keys pertaining to the ESL tape libraries that are installed on the system. You can add, edit, and delete license key information from this screen. The Interface Manager card and Command View ESL software use this information to enable any licensable features that have been purchased.



License	License Type	Quantity (LTU)	Identifier	Expiration Date	License Key
<b>*ESL at 15.38.75.185* Licenses</b>					
Command View ESL Software	Permanent	1	2G11DQ51B005		AAACE C99A H9P9 CHVY UFA4...
Direct Backup	Permanent	4	2G11DQ51B005		AAAKE B99A H9PA CHW3 UFA4...
Direct Backup	Permanent	8	2G11DQ51B005		QAASE A99A H9PA KHVY UFA4...
Secure Manager	Permanent	1	2G11DQ51B005		9AKC B99A H9PQ KHVY UFA4...
<b>Un-managed Licenses</b>					
Command View ESL Software	Instant On	1	any	Sat Aug 16 17:08:55 MD...	YDRG A9EA H9PQ GHV2 UFA4...
Command View ESL Software	Permanent	1	2G33KZ85H002		9A2G C99A H9PY KHVY UFA4...
Direct Backup	Permanent	6	2G33KZ85H002		QAACE A99A H9PQ 8HVY UFA4...
Secure Manager	Permanent	1	2G33KZ85H002		QAASA B99A H9PQ GHVZ UFA4...
Direct Backup	Permanent	2	2G33KZ85H002		AA2A D99A H9PQ CHX3 UFA4...

**Figure 15: License Key Summary screen**

The **License Key Summary** screen tracks license keys for the following features:

- Command View ESL
- HP StorageWorks Direct Backup Engine for ESL tape libraries
- HP StorageWorks Secure Manager for ESL tape libraries

**Note:** Command View ESL has an “instant-on” 60-day license. You are entitled to use it for up to 60 days after initial installation, during which time you are required to purchase a license. After the 60 days is expired, the program is still functional, but you will see a reminder screen each time you start the program until you enter a license key.

For more information regarding the additional features and licensing requirements, see [Advanced Features](#).

The first column of the **License Key Summary** screen lists all of the installed license keys and groups them into one of the following two groups:

- **Interface Manager Licenses** displays licenses pertaining to libraries that are managed by this management station. One folder (group) exists for each managed library.
- **Unmanaged Licenses** displays licenses pertaining to libraries that are not managed by this management station.

The remaining columns display the following information corresponding to each installed license key:

- **License Type** can be one of the following:
  - A *permanent* license has no expiration date.
  - An *instant-on* license allows you to use the feature free of charge up to the expiration date. You must obtain a permanent license to continue using the feature after the expiration date without experiencing a “nag” screen.
- **Quantity (LTU)** displays the quantity purchased of the specified license.
- **Identifier** displays the unique device identifier (library serial number) for that license key.
- **Expiration Date** displays the expiration date, if any, of the license key.
- **License Key** displays the actual license key. License keys are generally too long to fit in this column. To see the entire license key, double-click on the license key to display the **License Key Properties** dialog box.

## Adding or removing a license key

To add a new license key:

1. Obtain the license key from HP. See [Obtaining and installing license keys](#) for information on how to obtain a license key.
2. From the **Library Selection** tab of the **Launcher** screen, click the **License Key Summary** tab.
3. Click **Actions > Add New License Key...** to display the **Add License Key** dialog box.
4. Enter the license key in the provided text box and click **OK**. The new license key is added to the **License Key Summary** screen.

To remove a license key:

1. Select the license key you want to remove.
2. Click **Actions > Removed Licensed Feature**. The license key is removed from the **License Key Summary** screen.



**Caution:** Removing a license key for an advanced feature may require a reboot of the Interface Manager card. If a reboot is required, a dialog box is displayed allowing you to confirm or cancel the action. To prevent data loss, make sure that all backup jobs are complete before making any changes that may require a reboot.

---

# Command Line Interface

## 3

In addition to the Command View ESL GUI, the Interface Manager card can be managed via a command line interface (CLI). The CLI provides commands to perform all necessary management functions.

This chapter explains how to initiate a CLI session, the structure of the CLI, and basic navigational techniques. For a comprehensive listing of CLI commands, see [CLI Command Reference](#).



## Accessing the CLI

You can access the CLI either through a direct RS-232 connection, or by using Telnet over the LAN.

- **Serial**—uses a command line interface (CLI) and connects directly to the Interface Manager card through an RS232 serial interface rather than through the LAN. The serial UI takes precedence over the Command View ESL and Telnet UIs and will prevent any other open sessions from communicating with the Interface Manager card.

---

**Note:** If you use Telnet to change the IP address of the Interface Manager card, you will have to log in to a new Telnet session with the new IP address.

---

- **Telnet**—uses the same CLI as the serial interface, but requires the IP address of the Interface Manager card to initiate the session. This IP address can be set through the Interface Manager card's serial interface or cascade port or, on ESL E-Series libraries, through the library's Operator Control Panel (OCP). The advantage of using Telnet over the serial interface is that users can Telnet from any client machine that is on the LAN; a separate serial connection is not needed. The Telnet UI has precedence over the Command View ESL GUI and will prevent any open Command View ESL sessions from communicating with the library.



**Caution:** While it is possible for an administrator to terminate other sessions by opening a serial or Telnet session, this is not recommended. If, for example, someone is performing a firmware upgrade using a Command View ESL session and that session is terminated prematurely, the firmware upgrade would fail and render the device being upgraded unusable.

---

## Starting a serial session

To start a serial session:

1. Connect the management station or other PC or laptop to the Interface Manager card using the serial cable shipped with the Interface Manager card. Refer to Chapter 2, “Installation,” of the *HP StorageWorks Interface Manager and Command View ESL Installation Guide* for instructions on how to connect the cable.

2. Start a terminal emulation program on the PC that you connected to the Interface Manager card in step 1. A variety of programs may be used, but HyperTerminal, included with Microsoft Windows operating systems, is the most common. To start HyperTerminal, click **Start > Programs > Accesories > Communications > HyperTerminal**.
3. Set the communications settings as follows:
  - Port Speed:           **9600**
  - Data Bits:           **8**
  - Parity:               **none**
  - Stop bits:           **1**
  - Flow control:       **none**
4. At the login prompt, use the following default information:
  - Username:           cliadmin
  - Password:           clipwd

---

**Note:** After initially logging in, you should change your password using the `set mgmt password` command. This command starts an interactive procedure for changing the password.

---

## Starting a Telnet session

You can start a Telnet session with the Interface Manager card in one of two ways:

- **Through the LAN**—Use any PC on the LAN, including the management station, to Telnet into the Interface Manager card using the network IP address.
- **Through the Cascade port**—Connect a PC to the Interface Manager card via the cascade port and Telnet into the Interface Manager card using the cascade IP address.

### Telnet through the LAN

From any PC on the LAN, including the management station, do the following:

1. Open a command prompt and enter the following command:

```
telnet <name>
```

where <name> is either the IP address or hostname of the Interface Manager card.

2. At the login prompt, use the following default information:

- Username: cliadmin
- Password: clipwd

---

**Note:** After initially logging in, you should change your password using the `set mgmt password` command. This command starts an interactive procedure for changing the password.

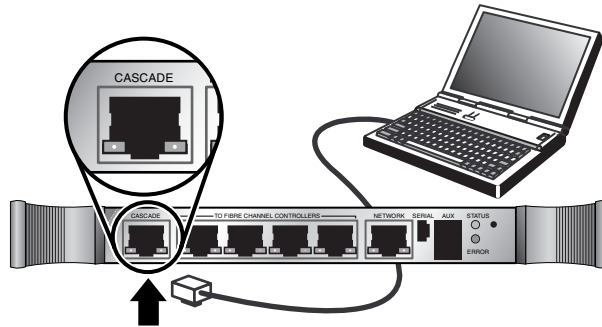
---

### Telnet through the cascade port

The cascade port of the Interface Manager card has a dedicated IP address that is hardcoded into the Interface Manager card and is completely separate from the network IP address. The cascade port provides a “backdoor” method for accessing the Interface Manager card and making configuration changes, such as getting or setting the network IP address.

To Telnet through the cascade port:

1. Connect a standard RJ-45 Ethernet cable from the network port of the PC or laptop to the cascade port of the Interface Manager card.



**Figure 16: Connecting to the cascade port**

2. Open a command prompt and enter the following command:

```
telnet 192.168.2.1
```

---

**Note:** The above IP address is hardcoded into the Interface Manager card and is completely separate from the network IP address.

---

3. At the login prompt, use the following default information:

- Username: cliadmin
- Password: clipwd

---

**Note:** After initially logging in, you should change your password using the `set mgmt password` command. This command starts an interactive procedure for changing the password.

---

## Command syntax structure

---

**Note:** Many command line examples are given throughout this chapter. To help differentiate between the command prompt and the actual commands that are entered, the prompt portion of the command line is shown in red text. For example, if the documentation says to enter the following command:

```
<user>/set/mgmt > clock
```

then you would type only the word `clock`. Do not type the text shown in red.

---

The command prompt has the following format:

```
<user>/<command_level> >
```

`<user>` indicates the CLI user name and `<command_level>` indicates the current command level. For example, when you first log in to the CLI with your CLI username and password, you see the following root-level prompt:

```
<user>/ >
```

The root command level offers all of the basic and operational commands. To change command levels, enter any command that is available from the current command level. For example, from the root command level, if you enter the `set` command to change to the `set` command level, the following prompt is displayed:

```
<user>/set >
```

All of the `set` commands are directly available at this level.

## Using command sequences

You can change to any command level by specifying a sequence of command levels. A command sequence contains each command level name separated by a space. For example, to get to the `mode` command level of the `set` command level, you could either enter `set mode` from the root command level or `mode` from the `set` command level:

```
<user>/ > set mgmt
```

```
<user>/set/mgmt >
```

- Or -

```
<user>/ > set
```

```
<user>/set > mgmt
```

```
<user>/set/mgmt >
```

To execute a command that is available at a particular command level, either change to that command level and enter the command, or enter a command sequence followed by the command name. For example, if you were at the root command level and wanted to use the `clock` command available at the `show mgmt` command level, you could do either of the following (in this example, output of the `clock` command has been omitted):

```
<user>/ > show mgmt clock
```

```
<user>/ >
```

- Or -

```
<user>/ > show mgmt
```

```
<user>/show/mgmt > clock
```

```
<user>/show/mgmt >
```

---

**Note:** Executing a command does not change the current command level.

---

## Abbreviating commands

All commands may be abbreviated provided that the abbreviation is unique. For example, from the root command level, `se mo` is equivalent to `set mode`. However, `se m` is ambiguous because `m` at the root command level could mean either `mgmt` or `mode`.

## Device numbering conventions

In some instances, the CLI numbers devices differently than they are numbered in the ESL library front panel. This discrepancy occurs because the ESL library uses a zero-based numbering scheme for drives and slots whereas the CLI uses a one-based numbering scheme. For example, if the library contains eight drives, the library front panel refers to those drives as drive 0 through 7. The CLI refers to the same drives as drive 1 through 8.

Table 4 shows the device numbering conventions used by the CLI and by the ESL library front panel (when applicable). The ESL library front panel does not reference the FC interface controllers or their associated FC port numbers and SCSI bus numbers. The CLI uses one-based numbering to refer to the FC interface controllers, but it uses zero-based numbering for the FC port numbers and SCSI bus numbers, corresponding with the numbers that are printed on the actual hardware.

**Table 4: Device Numbering Conventions**

Device	CLI	ESL9000 Series Front Panel	ESL E-Series Front Panel
Drives	One-based	Zero-based	One-based
Drive clusters	n/a	n/a	Zero-based *
Slots	One-based	Zero-based	n/a

---

**Note:** \* Drive clusters in the ESL E-Series libraries are zero-based, although they are not referred to from the front panel of the library.

---

## Navigating the CLI

The CLI is case-sensitive. All commands and keywords must be entered in lower case. User-defined strings such as names or descriptions may be in any case, including mixed case. Case information for user-defined strings is preserved in the configuration.

The CLI provides the following basic commands as listed in [Table 5](#).

**Table 5: Basic Commands**

Command	Description
show	Display configuration, status, and log information
set	Set or change configurable values
add	Add an item to a list
delete	Delete an item from a list
save	Save the current configuration or logs
restore	Restore saved or factory default configurations
setup	Run the Configuration wizard
download	Download firmware
reboot	Reboot devices

[Table 6](#) shows additional operating commands provided by the CLI.

**Table 6: Operational commands**

Command	Description
home	Move to the root command level
up	Move up one command level
help	Display help text for a particular command
exit	Terminate the current management session

The CLI also provides a command history that stores the last ten entered commands. Use the **up** and **down** arrow keys to scroll through the list of previous commands. For a complete listing of CLI commands, see [CLI Command Reference](#).



## Interface Manager mode

The Interface Manager mode setting controls the behavior of the Interface Manager card and dictates how the FC interface controllers are configured. Manual mode is intended for experienced personnel only.

In Automatic mode, the Interface Manager card ensures that the library is configured correctly and consistently across all FC interface controllers. In the event of an FRU replacement, advanced logic is enabled to maintain consistent firmware revisions and to present a consistent device map to backup servers.

In Manual mode, each FC interface controller is configured independently. The Interface Manager card does not provide consistency checking or FRU replacement logic.



**Caution:** HP strongly recommends that you leave the Interface Manager mode set to the default setting of Automatic. Using Manual mode increases the risk of making serious configuration errors and causing hardware conflicts which can severely disrupt the normal operation of the library.

---

To change the Interface Manager mode, enter the following command:

```
<user>/ > set mode {auto|manual}
```

When switching between modes, the current command level is changed to the root command level for that mode. When changing from Manual mode to Automatic mode, many of the manual configuration changes made in Manual mode will be lost.

## Common CLI functions

The following list provides quick links to several of the most common functions performed in the CLI.

- [Using the Setup wizard](#)
- [Configuring a library](#)
- [Configuring the FC interface controllers](#)
- [Monitoring device status](#)
- [Generating Interface Manager and FC interface controller logs](#)

- [Updating firmware](#)
- [Generating support tickets](#)
- [Using Secure Manager functions](#)

## Using the Setup wizard

The Setup wizard takes you through a series of prompts that allow you to perform all of the configuration steps necessary to get the system running.

For more information, see [setup](#).

## Configuring a library

Use the following commands to configure library properties:

- `set system assetnumber`
- `set system contact email`
- `show system contact name`
- `show system contact phone`
- `show system contact pager`
- `show system info`
- `show system location`
- `show system status`

Use the following commands to configure TCP/IP settings:

- `set network ipaddress`
- `set network dhcp`

## Configuring the FC interface controllers

Use the following commands to configure the port settings:

- `set interface hostport alpa`
- `set interface hostport connection`
- `set interface hostport mode`
- `set interface hostport speed`

## Monitoring device status

The CLI provides several commands to monitor device status. The status shown is a snapshot of device status at the moment the command was executed. After the status is displayed by the CLI, it does not refresh. To refresh the status information, execute the command again.

Use the following commands to show the status of the corresponding device:

---

**Note:** In the `show mgmt status` command, “mgmt” refers to the Interface Manager card.

---

- `show drive status`
- `show interface status`
- `show library status`
- `show mgmt status`
- `show robotics status`

## Generating Interface Manager and FC interface controller logs

The following two commands generate a log file for the Interface Manager card or the FC interface controller respectively. The log file is saved in the memory of the Interface Manager card and is accessible through anonymous ftp.

- `save mgmt log`
- `save interface log`

---

**Note:** When a log file is generated, it is given a set filename depending on the type of log (see [Table 7](#)). Each time a log file is generated, it overwrites the previous log file having the same filename.

---

The logs are available via anonymous ftp. To access the log file via ftp:

1. On any PC connected to the LAN, open a command shell.
2. Navigate to the directory that you want to transfer the log file to.
3. Enter the following command:

```
ftp <ipaddress>
```

where <ipaddress> is the IP address of the Interface Manager card.

4. Log in with the following credentials:

■ User name: ftp

■ Password: Use your e-mail address

After logging in, a command shell opens displaying the anonymous ftp directory.

5. If necessary, use the `ls` command to list the contents of the ftp directory.
6. Enter the following command to turn on binary transfer mode:

```
bin
```

7. Enter the following command to copy the log file to the directory that you navigated to in Step 2:

```
get <filename>
```

The filename is determined by the type of log file you are retrieving, as shown in [Table 7](#).

**Table 7: Log file types and filenames**

Type of Log	Filename
FC interface controller event log	<i>IF_EVENTLOG.XML</i>
FC interface controller stats log	<i>IF_STATS.TXT</i>
FC interface controller trace log	<i>IF_TRACE.TXT</i>
Interface Manager card event log	<i>EventLog.xml</i>
Interface Manager card trace log	<i>TraceLog.xml</i>
Interface Manager card history log	<i>ArchiveLog.xml</i>

8. Use the `quit` command to logoff the ftp session.

## Updating firmware

You can use the CLI to update the firmware of the Interface Manager card and other library hardware. This procedure involves three steps:

1. Use HP StorageWorks Library and Tape Tools (L&TT) to acquire the latest firmware file. You can acquire L&TT at:

<http://h18006.www1.hp.com/products/storageworks/ltt/index.html>

Refer to the documentation included with L&TT for instructions on how to acquire the latest firmware for your hardware.

2. Use ftp to transfer the firmware file to a temporary storage area in the Interface Manager card's memory.
  - a. On any PC connected to the LAN, open a command shell.
  - b. Navigate to the directory that the firmware you downloaded in [step 1](#) is located. Refer to the L&TT documentation for the default location of downloaded firmware files.
  - c. Enter the following command:  

```
ftp <ipaddress>
```

where *<ipaddress>* is the IP address of the Interface Manager card.
  - d. Log in with the following credentials:
    - User name: `ftp`
    - Password: Use your e-mail address
  - e. After logging in, a command shell opens, displaying the anonymous ftp directory.
  - f. If necessary, use the `ls` command to list the contents of the ftp directory.
  - g. Enter the following command to turn on binary transfer mode:  

```
bin
```
  - h. Enter the following command to copy the firmware file to the temporary location in the Interface Manager card's memory:  

```
put <filename>
```

where *<filename>* is the filename of the firmware file.
  - i. Use the `quit` command to logoff the ftp session.

3. Execute one of the following commands to download the firmware file from the Interface Manager card's memory to the appropriate device:

- `download drive`
- `download interface`
- `download library`
- `download mgmt`

---

**Note:** In the `download mgmt` command, "mgmt" refers to the Interface Manager card.

---

---

**Note:** Firmware files have a special header that prevents them from being downloaded to the wrong type of device. If the Interface Manager card detects an incorrect firmware type when you execute any of the download commands, it will notify you of the problem and delete the firmware file from the temporary storage location in the card's memory.

---

## Generating support tickets

The Interface Manager card can generate a support ticket for various library components. This feature is only available through the CLI.

You can generate a support ticket for drives, FC interface controllers, the library itself, and the Interface Manager card. The command used specifies the type of support ticket to be generated. When a support ticket is generated, the Interface Manager card saves the file *sticket.ltt* to a temporary location in the Interface Manager card's memory. Use anonymous ftp to retrieve the support ticket, and then use L&TT to view it.

---

**Note:** Each time a support ticket is generated, it uses the same filename (*sticket.ltt*) and overwrites the previous support ticket.

---

To generate a support ticket from the CLI:

1. Execute one of the following commands, depending on the type of support ticket to be created:

- `save drive lttsupportticket`
- `save interface lttsupportticket`
- `save library lttsupportticket`
- `save mgmt lttsupportticket`

---

**Note:** In the `save mgmt lttsupportticket` command, “mgmt” refers to the Interface Manager card.

---

The Interface Manager card generates the file *sticket.ltt* and stores it in a temporary location in the Interface Manager card’s memory.

2. Use ftp to retrieve the *sticket.ltt* file and copy it to a location on your PC or network.
  - a. On any PC connected to the LAN, open a command shell.
  - b. Navigate to the directory that you want to store the support ticket in. This is typically (but not necessarily) the *logs* directory found under the installation directory of L&TT.
  - c. Enter the following command:

```
ftp <ipaddress>
```

where *<ipaddress>* is the IP address of the Interface Manager card.
  - d. Log in with the following credentials:
    - User name: `ftp`
    - Password: Use your e-mail address
  - e. After logging in, a command shell opens displaying the anonymous ftp directory.
  - f. If necessary, use the `ls` command to list the contents of the ftp directory.
  - g. Enter the following command to turn on binary transfer mode:

```
bin
```



- h. Enter the following command to copy the firmware file to the temporary location in the Interface Manager card's memory:

```
get sticket.ltt
```

The file is copied to the directory you navigated to in [step b](#).

- i. Enter `quit` to logoff the ftp session.
3. Use L&TT to view the support ticket. You can acquire L&TT at:  
<http://www.hp.com/support/tapetools>

Refer to the documentation included with L&TT for instructions on how to view a support ticket.

## Using Secure Manager functions

Secure Manager for ESL gives the ESL library administrator control over which drives in the library may be accessed by the various backup hosts on the SAN. There are two levels of Secure Manager for ESL implemented with the Interface Manager card:

- **Basic Secure Manager** does not require a license key and is activated automatically. With Basic Secure Manager, you can configure whether or not a particular host Host Bus Adapter (HBA) can access the library. However, Basic Secure Manager does not allow you to control whether a particular host HBA can see individual components within the library. Basic Secure Manager provides an “all or nothing” level of control. Basic Secure Manager is accessible through the CLI.
- **Advanced Secure Manager** requires Command View ESL to use and is not available through the CLI. See [Secure Manager for ESL](#) for more information.

## Accessing basic Secure Manager through the CLI

You can use the CLI to map a Host Bus Adapter (HBA) of a backup host to the library. When you map a host, you give it full access to the entire library. When you unmap a host, you deny it access to the entire library.

To map a host:

1. Use the following command to show a list of all hosts that are known by the system:

```
show host info
```

This command lists all known hosts and assigns each one a host number. You will need the host number to map the host.

The Interface Manager card keeps track of all hosts that attempt to access the library. It is possible that some hosts in the SAN are not recognized by the Interface Manager card. If a host that you need to map is not recognized by the system, use the following command to add the host:

```
create host <nodewwn> <hostname>
```

The arguments for the `create host` command are as follows:

- **nodewwn**—Specify the node world wide name. World wide names are specified as 16 hex digits. For example, "1234567890ABCDEF" is a well-formed world wide name. This operand is required.
- **hostname**—Specify the name of the host. The host name may contain letters, numbers, and '\_' characters. The maximum length for a host name is 19 characters. This operand is required.

After creating a new host, use the `show host info` command to determine the host number of the new host.

2. Use the following commands to map or unmap a host, respectively:

- `map host <host number>`
- `unmap host <host number>`

where *<host number>* is the number of the host you want to map or unmap that you determined in [step 1](#).



# Advanced Features

## 4

This chapter explains the advanced features offered by the Interface Manager card and how to license those features. The Interface Manager card supports two optional features that can be licensed separately:

- **HP StorageWorks Direct Backup Engine for ESL tape libraries**—This feature provides a direct or “serverless” backup solution that streams data directly from an HP disk array to a tape drive in the ESL library without sending data through an application server. The Interface Manager card is required to activate this feature.
- **HP StorageWorks Secure Manager for ESL tape libraries**—This feature gives the ESL library administrator control over which libraries or drives within a library may be accessed by the various backup hosts on the SAN.

## Direct Backup Engine for ESL

The Direct Backup Engine for ESL provides a direct or “serverless” backup solution that streams data directly from an HP-supported disk array to a tape drive in the ESL tape library without sending the data through the application server. This greatly improves performance and eliminates the need for backup servers to keep up with increasingly powerful tape drives.

With the traditional backup method, the backup host server requests the data from the disk array and then resends the data back out to the appropriate tape drive in the library. With Direct Backup Engine for ESL, the backup application on the backup host server sends a command directly to a Fibre Channel (FC) interface controller in the ESL tape library. The FC interface controller then requests data directly from the disk array and sends that data directly to the appropriate tape drive. This process is repeated until the backup job is complete.

## Requirements

The following requirements must be met to use Direct Backup Engine for ESL:

- HP StorageWorks ESL9000 Series or ESL E-Series library, operating in a SAN environment, with the following hardware installed:
  - Interface Manager card
  - Up to four (with ESL9000 Series) or six (with ESL E-Series) e2400, e2400-FC 2G, or e2400-160 FC Interface Controllers
- Backup application software that supports serverless backup
- HP disk array
- One or more valid Direct Backup Engine for ESL license keys must be installed for each library using Command View ESL. Each tape drive that will use Direct Backup Engine for ESL must be covered by the LTU (license to use) quantity for each license key. For example, if you have two license keys and one license key has an LTU quantity of four and the other has an LTU quantity of two, then a total of six drives can use Direct Backup Engine for ESL. See [Obtaining and installing license keys](#) for more information.

## Using Direct Backup Engine for ESL

Before using Direct Backup Engine for ESL, you must obtain and install the license key. See [Obtaining and installing license keys](#) for more information.

Configuring the SAN to work with serverless backup is beyond the scope of this documentation. Many of the SAN requirements depend on the backup application used. For instructions on how to set up and use serverless backup, refer to your backup application documentation.

## Enabling Direct Backup for ESL on tape drives

Before you can use Direct Backup, you must first indicate which drives will use the feature. The number of drives that can use Direct Backup is determined by the LTU quantity of the license key or keys enabling Direct Backup.

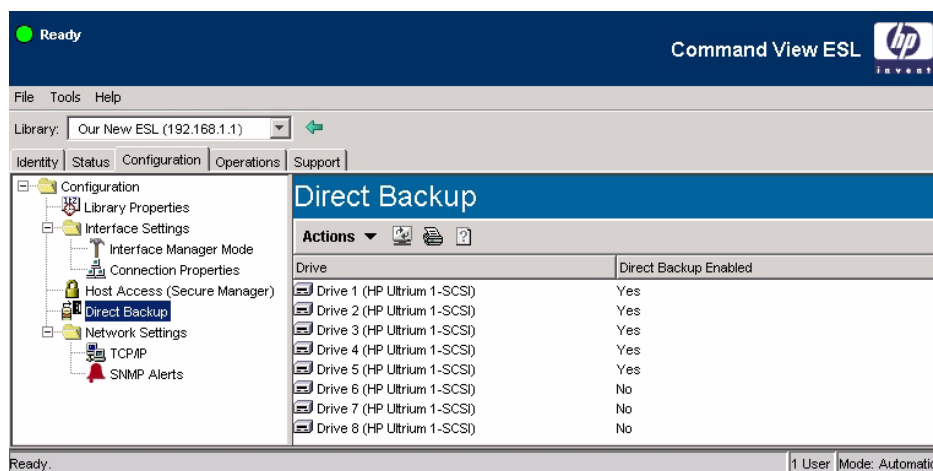
To enable Direct Backup on tape drives:



**Caution:** Changing the Direct Backup drive configuration may require a reboot of the Interface Manager card. Make sure that no backup operations are in progress before proceeding.

---

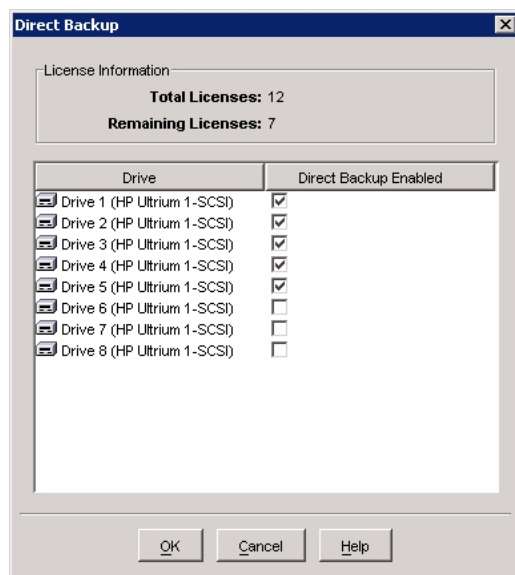
1. Start a Command View ESL session. See [Starting Command View ESL](#) for instructions.
2. From the **Library Selection** tab of the **Launcher** screen, double-click the desired library.
3. Click the **Configuration** tab.
4. Click the **Direct Backup** item in the treeview to display the **Direct Backup** screen.



**Figure 17: Direct Backup screen**

The **Direct Backup** screen displays a list of drives and whether Direct Backup is enabled for each drive.

- Click **Actions > Edit Direct Backup...** to display the **Direct Backup** dialog box.



**Figure 18: Direct Backup dialog box**

6. Select the checkbox for each drive to enable Direct Backup on that drive. The total licenses and remaining licenses are displayed at the top of the dialog box. The number of remaining licenses is updated each time you select or deselect a checkbox. If you exceed the total number of licenses, you will not be able to save the configuration.
7. Click **OK** to save the configuration.



## Secure Manager for ESL

Secure Manager for ESL gives the ESL library administrator control over which devices in the library (drives and robotic controller) may be accessed by the various backup hosts on the SAN. Access can be configured for each FC port on an HBA. Each port of a dual-port HBA must be configured separately.

There are two levels of Secure Manager for ESL implemented with the Interface Manager card:

- **Basic Secure Manager**—does not require a license key and is activated automatically. With Basic Secure Manager, you can configure whether or not a particular FC port of a host Host Bus Adapter (HBA) can access the library. However, Basic Secure Manager does not allow you to control whether this FC port can see individual components within the library. Basic Secure Manager provides an “all or nothing” level of control.
- **Advanced Secure Manager**—requires a license key before it can be used. Advanced Secure Manager provides the same functionality as Basic Secure Manager, but adds more granular control over access.

With Advanced Secure Manager, you can configure which drives in the library each FC port of the host HBA is allowed to access. This level of control effectively partitions the library’s resources into user-defined zones that can be allocated to certain host HBA FC ports on the SAN, thus reducing the possibility of access conflicts and errors.

## Requirements

The following requirements must be met to use Secure Manager for ESL:

- HP StorageWorks ESL9000 Series or ESL E-Series library, operating in a SAN environment, with the following hardware installed:
  - Interface Manager card
  - Up to four (with ESL9000 Series) or six (with ESL E-Series) e2400, e2400-FC 2G, or e2400-160 FC Interface Controllers
- A valid license key is required to use Advanced Secure Manager for ESL. See [Obtaining and installing license keys](#) for more information.

## Using Secure Manager for ESL

You must use Command View ESL to configure Advanced Secure Manager for ESL. To configure Secure Manager ESL:

1. Start a Command View ESL session. See [Starting Command View ESL](#) for instructions.
2. From the **Library Selection** tab of the **Launcher** screen, double-click the desired library.
3. Click the **Configuration** tab.
4. Click the **Host Access (Secure Manager)** item in the treeview to display the **Secure Manager** screen.

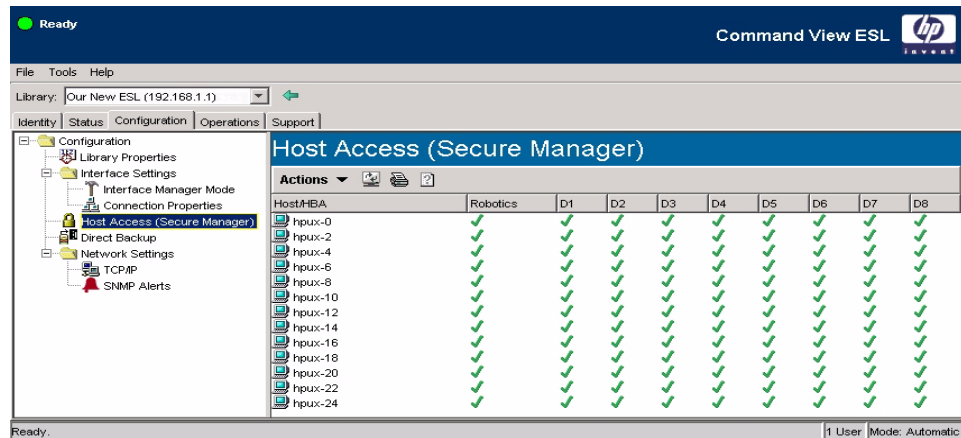


Figure 19: Secure Manager screen

The left column of the **Secure Manager** screen displays a list of host HBAs that have recently logged into the FC interface controllers. The remaining columns correspond to the devices within the library (robotics and drives 1-8). A green check in a column indicates that the corresponding host HBA has access to that device. At this point, you have several options:

- [Adding or removing a host/HBA from the list](#)
- [Editing the host HBA alias](#)
- [Viewing host HBA properties](#)
- [Configuring access for a host HBA](#)
- [Viewing the device map](#)

## Adding or removing a host/HBA from the list

If the host HBA you want to configure is not shown in the list, you must add it manually. There are two ways to add a Host/HBA to the list: To add a host HBA to the list:

1. Click **Actions > Edit Host/HBA Access...** to open the **Edit Host/HBA Access** dialog.
2. Do one of the following:

If the Host/HBA you are adding has already been detected by Command View ESL:

- a. Click **Actions > Add Known Host/HBA...** to open the **Add Known Host/HBA** dialog.
- b. Select the Host/HBA(s) to add and click **OK** to return to the **Edit Host/HBA Access** dialog.

If the Host/HBA you are adding is new:

- a. Click **Actions > Add New Host/HBA...** to open the **Add New Host/HBA** dialog.
  - b. Enter the name (alias), World Wide Node Name, and World Wide Port Name of the Host/HBA in the respective text boxes and click **OK** to return to the **Edit Host/HBA Access** dialog.
3. Configure Host/HBA access. Do one of the following:
    - If you are using Basic Secure Manager, no further configuration is necessary. Click **OK** to close the **Edit Host/HBA Access** dialog and return to the **Secure Manager** screen. The Host/HBA you just added is displayed in the list and has full access to all devices in the library.

- If you are using Advanced Secure Manager, find the host HBA you just added in the list. In the same row, select the checkbox for each device you want the Host/HBA to have access to. Click **OK** to close the **Edit Host/HBA Access** dialog and return to the **Secure Manager** screen. The Host/HBA you just added is displayed in the list and has access to the devices you specified.

## Editing the host HBA alias

To specify a “friendly” name (alias) for a particular host HBA:

1. Click **Actions > Edit Host/HBA Access...** to open the **Edit Host/HBA Access** dialog.
2. In the **Edit Host/HBA Access** dialog, select the Host/HBA to edit and click **Actions > Edit Host/HBA Name...** to display the **Edit Host/HBA Name** dialog box.
3. Enter the desired alias and click **OK** to return to the **Edit Host/HBA Access** dialog.
4. Click **OK** to return to the **Secure Manager** screen.

## Viewing host HBA properties

To view the properties of the host HBA:

1. Select the Host/HBA in the list.
2. Click **Actions > Properties...** (or double-click the Host/HBA name in the list) to display the **Host/HBA Properties** dialog.

## Configuring access for a host HBA

To configure access for all of the Host/HBAs in the list:

1. Verify that the list contains all of the Host/HBAs for which you want to configure access. If any Host/HBAs are missing, see [Adding or removing a host/HBA from the list](#) for instructions on how to add a Host/HBA.
2. Click **Actions > Edit Host/HBA Access...** to open the **Edit Host/HBA Access** dialog.
3. For each Host/HBA, select the checkbox for each device you want the Host/HBA to have access to. Click **OK** when finished.

---

**Note:** If you are using Basic Secure Manager, you cannot specify access to individual devices. For each Host/HBA, you must either select all the devices in that row, or deselect all the devices in that row. Remember that Basic Secure Manager provides “all or nothing” access to the entire library, not specific devices within the library.

---

---

**Note:** You can copy the access configuration from one Host/HBA to another. Select the “source” Host/HBA with the configuration you want to copy and press **Ctrl+C** (or click the **Copy** button at the top of the dialog box) to copy the configuration. Then click the “destination” Host/HBA and press **Ctrl+V** (or click the **Paste** button at the top of the dialog box) to copy the configuration.

---

## Viewing the device map

The device map shows how a particular Host/HBA “sees” the configuration within a library. The device map displays all of the devices in the library in the first column. The second and third columns display the FC port and LUN information respectively for the corresponding device, as it appears to that Host/HBA. The device map is displayed in the Host/HBA Properties dialog. To view a device map:

1. Select the Host/HBA in the list.
2. Click **Actions > Properties...** (or double-click the Host/HBA name in the list) to display the **Host/HBA Properties** dialog.

## Obtaining and installing license keys

Complete the following steps to obtain and install your license key(s):

1. **Purchase the license(s).** You may have already purchased the additional licensable features when you ordered the ESL library. If not, visit [www.hp.com](http://www.hp.com) or contact your HP authorized reseller for purchasing information.

After purchasing the license(s), you will receive one or more Software Entitlement Certificates that show the HP order number, the product number and name, and the quantity ordered.

2. **Obtain the license key(s).** Fill out the required information and follow the instructions on the Software Entitlement Certificate(s) to obtain your license keys. HP generates the license key based on the HP order number and the

serial number of the library that the key will be installed in. HP will provide you with the license keys via whichever method you specified on the Software Entitlement Certificate (online, e-mail, or fax).

3. **Use Command View ESL to Install the license key(s) for your library.**  
This step is described in detail in the [Installing the license keys](#) section.

## Installing the license keys

Before installing your license keys, keep in mind the following:

- You must use Command View ESL to install each license key for the library having the serial number used to obtain the key. The license cannot be installed for a different library.
- License keys cannot be transferred.

Each license key must be installed separately using the License Manager of Command View ESL. To install a license key:

1. Start a Command View ESL session. Refer to [Starting Command View ESL](#) for instructions on how to do this.
2. From the **Library Selection** tab of the **Launcher** screen, click the **License Key Summary** tab.
3. Click **Actions > Add New License Key...** to display the **Add License Key** dialog box.
4. Enter the license key in the provided text box and click **OK**. The new license key is added to the **License Key Summary** screen.

For more information about using the License Manager, see [License Key Summary tab](#).



# Troubleshooting

## 5

This chapter lists several common problems and how to resolve them. For additional support, go to:

<http://www.hp.com/support/cvesl>.

**Table 8: ESL9000 Series issues**

Symptom	Possible Cause	Solution
Command View ESL server does not detect the Interface Manager card	Bad network connection	Verify that the Interface Manager card and the management station are correctly connected to the LAN.
	Interface Manager card not powered up or in ready state	Power up the library. Observe status and link LEDs. For a description of LED diagnostic codes, refer to the "Troubleshooting" chapter of the <i>HP StorageWorks Interface Manager and Command View ESL Installation Guide</i> .
	Incorrect IP address	Verify that the correct IP address of the Interface Manager card is entered in Command View ESL. <ol style="list-style-type: none"><li>1. See "Getting or Setting the Interface Manager IP Address" in Chapter 3 of the <i>HP StorageWorks Interface Manager and Command View ESL Installation Guide</i> to obtain the correct IP address.</li><li>2. See <a href="#">Adding or removing a library</a> to configure Command View ESL with the correct IP address.</li></ol>



Symptom	Possible Cause	Solution
Interface Manager card does not detect one or more FC interface controllers	Bad network connection	Verify that the Interface Manager card is properly connected to the FC interface controllers and that the cables are good. See the <i>HP StorageWorks Interface Manager and Command View ESL Installation Guide</i> for more information.
	Incorrect firmware revision	Make sure that the FC interface controllers have the latest firmware revision. Check <a href="http://www.hp.com/support">http://www.hp.com/support</a> for the latest firmware for your devices.
	Defective Interface Manager card or FC interface controller	Observe status and link LEDs. Replace defective card or controller. For a description of LED diagnostic codes, refer to the "Troubleshooting" chapter of the <i>HP StorageWorks Interface Manager and Command View ESL Installation Guide</i> .

Symptom	Possible Cause	Solution
Interface Manager card does not detect drives or library	SCSI cables not connected properly	Check SCSI cabling.
	FC cables (e2400-FC 2G only) not connected properly or damaged	Check FC cables and replace if necessary.
	SCSI settings or termination not set properly	<ul style="list-style-type: none"> <li>■ Check the SCSI settings for the device.</li> <li>■ Check that the SCSI bus is properly terminated.</li> </ul>
	Timing issues	Reset the corresponding FC interface controller.
	Drive not powered up or in ready state	Troubleshoot drive.
Command View ESL does not run in the browser	Incompatible browser version or Java support not enabled	<ul style="list-style-type: none"> <li>■ Make sure you are using a minimum of Microsoft Internet Explorer v6.0 SP1 or later, or Netscape Navigator v6.2 or later.</li> <li>■ Make sure that Java support is enabled in the browser.</li> </ul>
	Java Runtime Environment (JRE) not installed	Download and install the Java 2 Platform, Standard Edition plugin v1.4.2_02 or later from <a href="http://www.sun.com/software/download/technologies.html">http://www.sun.com/software/download/technologies.html</a> .
	Bad network connection or network down	<ul style="list-style-type: none"> <li>■ Check all physical network connections. If the connections are good, contact your network administrator.</li> <li>■ Ping the management station. If pinging fails and the IP address is correct, contact your network administrator.</li> </ul>
	Wrong IP address	Check the IP address of the management station. On the management station, open a command shell and enter <code>ipconfig</code> . You must use this IP address (or the network name of the management station) in the URL to access Command View ESL.
	Management station not running, or Command View ESL service not running on management station.	<ul style="list-style-type: none"> <li>■ Check to see if the management station is operational.</li> <li>■ Use the Services applet to verify that the Command View ESL service is running on the management station. Click <b>Start &gt; Settings &gt; Control Panel &gt; Administrative Tools &gt; Services</b>.</li> </ul>

**Table 9: ESL E-Series issues**

Symptom	Possible Cause	Solution
Command View ESL server does not detect the Interface Manager card	After powering up the library, it can take up to ten minutes for Command View ESL to detect the Interface Manager card.	This is a normal delay. Wait for ten minutes and try again.
	Bad network connection	Verify that the library and the management station are correctly cabled.
	Interface Manager card not powered up or in ready state	Power up the library. Observe status and link LEDs. For a description of LED diagnostic codes, refer to the "Troubleshooting" chapter of the <i>HP StorageWorks Interface Manager and Command View ESL Installation Guide</i> .
	Incorrect IP address	Verify that the correct IP address of the library is entered in Command View ESL. <ul style="list-style-type: none"> <li>Refer to the <i>HP StorageWorks ESL E-Series Tape Library User Guide</i> for instructions on determining the library IP address.</li> <li>See <a href="#">Adding or removing a library</a> to configure Command View ESL with the correct IP address.</li> </ul>
	Defective Cabinet Controller	Call HP Service.
Interface Manager card does not detect one or more FC interface controllers	Bad network connection	Verify that the Interface Manager card is properly connected to the library's internal LAN and that the cables are good. See the <i>HP StorageWorks ESL E-Series Tape Library User Guide</i> for more information.
	Incorrect firmware revision	Make sure that the FC interface controllers have the latest firmware revision. Check <a href="http://www.hp.com/support">http://www.hp.com/support</a> for the latest firmware for your devices.
	Defective Interface Manager card or FC interface controller	Observe status and link LEDs. Replace defective card or controller. For a description of LED diagnostic codes, refer to the "Troubleshooting" chapter of the <i>HP StorageWorks Interface Manager and Command View ESL Installation Guide</i> .

Symptom	Possible Cause	Solution
Interface Manager card does not detect drives or library	SCSI cables not connected properly	Check SCSI cabling.
	FC cables (e2400-FC 2G only) not connected properly or damaged	Check FC cables and replace if necessary.
	SCSI settings or termination not set properly	<ul style="list-style-type: none"> <li>■ Check the SCSI settings for the device.</li> <li>■ Check that the SCSI bus is properly terminated.</li> </ul>
	Timing issues	Reset the corresponding FC interface controller.
	Drive not powered up or in ready state	Troubleshoot drive.
Command View ESL does not run in the browser	Incompatible browser version or Java support not enabled	<ul style="list-style-type: none"> <li>■ Make sure you are using a minimum of Microsoft Internet Explorer v6.0 SP1 or later, or Netscape Navigator v6.2 or later.</li> <li>■ Make sure that Java support is enabled in the browser.</li> </ul>
	Java Runtime Environment (JRE) not installed	Download and install the Java 2 Platform, Standard Edition plugin v1.4.2_02 or later from <a href="http://www.sun.com/software/download/technologies.html">http://www.sun.com/software/download/technologies.html</a> .
	Bad network connection or network down	<ul style="list-style-type: none"> <li>■ Check all physical network connections. If the connections are good, contact your network administrator.</li> <li>■ Ping the management station. If pinging fails and the IP address is correct, contact your network administrator.</li> </ul>
	Wrong IP address	Check the IP address of the management station. On the management station, open a command shell and enter <code>ipconfig</code> . You must use this IP address (or the network name of the management station) in the URL to access Command View ESL.
	Management station not running, or Command View ESL service not running on management station.	<ul style="list-style-type: none"> <li>■ Check to see if the management station is operational.</li> <li>■ Use the Services applet to verify that the Command View ESL service is running on the management station. Click <b>Start &gt; Settings &gt; Control Panel &gt; Administrative Tools &gt; Services</b>.</li> </ul>



# CLI Command Reference



This chapter provides an alphabetical reference of CLI commands used with the Interface Manager card.

## User commands

The following commands are available to all users. Click a command name in the table to jump to the description of that command.

<code>add directbackup</code>	<code>set system contact email</code>	<code>show interface targetport alpa</code>
<code>create host</code>	<code>set system contact name</code>	<code>show interface targetport</code>
<code>delete directbackup</code>	<code>set system contact pager</code>	<code>connection</code>
<code>download interface</code>	<code>set system contact phone</code>	<code>show interface targetport mode</code>
<code>download drive</code>	<code>set system location</code>	<code>show interface targetport speed</code>
<code>download mgmt</code>	<code>set system name</code>	<code>show library access</code>
<code>download library</code>	<code>setup</code>	<code>show library info</code>
<code>map host</code>	<code>show directbackup</code>	<code>show library interface</code>
<code>reboot all</code>	<code>show drive access</code>	<code>show library name</code>
<code>reboot interface</code>	<code>show drive info</code>	<code>show library productid</code>
<code>reboot mgmt</code>	<code>show drive interface</code>	<code>show library revision</code>
<code>restore interface defaults</code>	<code>show drive name</code>	<code>show library serialnumber</code>
<code>restore system config</code>	<code>show drive productid</code>	<code>show library status</code>
<code>save interface log</code>	<code>show drive revision</code>	<code>show library topology</code>
<code>save drive lttsupportticket</code>	<code>show drive serialnumber</code>	<code>show license</code>
<code>save interface lttsupportticket</code>	<code>show drive status</code>	<code>show mgmt clock</code>
<code>save library lttsupportticket</code>	<code>show drive type</code>	<code>show mgmt info</code>
<code>save mgmt lttsupportticket</code>	<code>show firmware available</code>	<code>show mgmt revision</code>
<code>save mgmt log</code>	<code>show firmware revisions</code>	<code>show mgmt status</code>
<code>save system config</code>	<code>show host access</code>	<code>show mgmt timezone</code>
<code>set host name</code>	<code>show host info</code>	<code>show mode</code>
<code>set interface hostport alpa</code>	<code>show host name</code>	<code>show network dhcp</code>
<code>set interface hostport</code>	<code>show interface access</code>	<code>show network ipaddress</code>
<code>connection</code>	<code>show interface hostport alpa</code>	<code>show robotics status</code>
<code>set interface hostport mode</code>	<code>show interface hostport</code>	<code>show system assetnumber</code>
<code>set interface hostport speed</code>	<code>connection</code>	<code>show system contact email</code>
<code>set mgmt clock</code>	<code>show interface hostport mode</code>	<code>show system contact name</code>
<code>set mgmt password</code>	<code>show interface hostport speed</code>	<code>show system contact phone</code>
<code>set mgmt timezone</code>	<code>show interface info</code>	<code>show system contact pager</code>
<code>set mode</code>	<code>show interface name</code>	<code>show system info</code>
<code>set network dhcp</code>	<code>show interface revision</code>	<code>show system location</code>
<code>set network ipaddress</code>	<code>show interface status</code>	<code>show system name</code>
<code>set system assetnumber</code>		<code>show system status</code>
		<code>unmap host</code>

## add directbackup

**Description** Use this command to activate the direct backup licensed feature on one or more tape drives. To use this command, the license key for the direct backup licensed feature must have been entered, and there must be unused units of this feature. To move a unit of the direct backup advanced feature from one tape drive to another, that unit must first be freed using the delete directbackup command. If more tape drives are specified than there are direct backup licensed features available, the command will fail, and no changes will be made.



**Caution:** Using this command could force a reboot of some interfaces. Make sure that no backup jobs are in progress before running this command.

**Syntax** `add directbackup <drive_num>`

**Availability** All users and modes

**Operands** `<drive_num>` Specify the tape drive on which the direct backup feature will be activated.  
The direct backup licensed feature may be activated on all tape drives by specifying "all" for this operand.  
This operand is required.

**Examples** To activate the direct backup feature on all tape drives:

```
/>add directbackup all
Caution: Adding direct backup could force a reboot of some interfaces
and will terminate all backup operations involving the rebooting
interfaces.
```

```
Do you really want to add a direct backup?
```

```
Committing configuration...done
Currently, 8 of 8 units of the direct backup feature are being used
```

To activate the direct backup feature on tape drive 1:

```
/>add directbackup 1
Caution: Adding direct backup could force a reboot of some interfaces
and will terminate all backup operations involving the rebooting
interfaces.
```

```
Do you really want to add a direct backup?
```

```
Committing configuration...done
Currently, 1 of 8 units of the direct backup feature are being used
```

**See Also** [show directbackup](#)  
[delete directbackup](#)

## create host

**Description** Use this command to create a reference to a Host Bus Adapter (HBA). This should only be used for hosts not currently connected to any interfaces.  
If the specified host has already been created using the specified node world wide name and port world wide name, no changes will be made. If there already exists a host with the specified host name, no changes will be made.

**Syntax** `create host <nodewwn> <nodewwpn> <hostname>`

**Availability** All users and modes

**Operands** `<nodewwn>` Specify the node world wide name, World wide names are specified as 16 hex digits. For example, "1234567890ABCDEF" is a well-formed world wide name.

This operand is required.

`<nodewwpn>` Specify the node world wide port name, World wide port names are specified as 16 hex digits. For example, "1234567890ABCDEF" is a well-formed world wide name.

This operand is required.

`<hostname>` Specify the name of the host. The host name may contain letters, numbers, and '\_' characters. The maximum length for a host name is 19 characters.

This operand is required.

**Examples** To create the host with node world wide name `10000E002020C69`, world wide port name `FFFFFFFFFFFFFFFF`, and named `myhost1`:

```
/>create host 10000E002020C69 FFFFFFFFFFFFFFFFFF myhost1
Committing configuration...done
```

**See Also** [unmap host](#)  
[set host name](#)  
[show host name](#)



## delete directbackup

**Description** Use this command to delete the direct backup licensed feature from one or more tape drives. To use this command, the license key for the direct backup licensed feature must have been entered.

If the specified tape drives do not have direct backup activated, no changes will be made for those drives, but changes will be made for other specified drives.



**Caution:** Using this command could force a reboot of some interfaces. Make sure that no backup jobs are in progress before running this command.

**Syntax** `delete directbackup <drive_num>`

**Availability** All users and modes

**Operands** `<drive_num>` Specify the tape drive on which the direct backup feature will be deleted.  
The direct backup licensed feature may be deleted on all tape drives by specifying "all" for this operand.  
This operand is required.

**Examples** To delete the direct backup feature from all tape drives:

```
/>delete directbackup all
```

Caution: Deleting direct backup could force a reboot of some interfaces and will terminate all backup operations involving the rebooting interfaces.

Do you really want to delete a direct backup? y

Committing configuration...done

Currently, 0 of 8 units of the direct backup feature are being used

To delete the direct backup feature from tape drive 2:

```
/>delete directbackup 2
```

Caution: Deleting direct backup could force a reboot of some interfaces and will terminate all backup operations involving the rebooting interfaces.

Do you really want to delete a direct backup? y

Committing configuration...done

Currently, 1 of 8 units of the direct backup feature are being used

**See Also** [show directbackup](#)  
[add directbackup](#)

## download interface

**Description** Use this command to download the images of a firmware file to one or more FC interface controllers.

Firmware files can be retrieved from the Internet using HP StorageWorks Library and Tape Tools. Before using this command, a firmware file must have been transferred to the Interface Manager card's firmware repository via FTP. See [Updating firmware](#) for more information.



**Caution:** Downloading firmware will force a reboot of the interface. Make sure that no backup jobs are in progress before running this command.

---

<b>Syntax</b>	download interface <interface_num> [force]	
<b>Availability</b>	All users and modes	
<b>Operands</b>	<interface_num>	Specify the interface number. All of the interfaces may be rebooted by specifying "all" for this operand. This operand is required.
	force	Specify force to skip the prompt asking if you are sure you want to download the firmware. This operand is optional.

**Examples** To download the firmware repository file to all interfaces:

```
>/download interface 1

Downloading interface firmware will cause a reboot of the
interface, and will cause any currently running backups to
fail. Do you wish to continue (press y/n)? y

Downloading fimrware to Interface Card 1...
Checking download status until status is download complete.
State: IN-PROGRESS           Download Percentage: 10
State: IN-PROGRESS           Download Percentage: 20
State: IN-PROGRESS           Download Percentage: 25
State: IN-PROGRESS           Download Percentage: 30
State: IN-PROGRESS           Download Percentage: 40
State: IN-PROGRESS           Download Percentage: 50
State: REBOOTING             Download Percentage: 60
State: REBOOTING             Download Percentage: 70
State: REBOOTING             Download Percentage: 80
State: REBOOTING             Download Percentage: 90
Success!
```

**See Also** [download drive](#)  
[download mgmt](#)

## download drive

Description	Use this command to download the images of a firmware file to one or more interfaces.  Firmware files can be retrieved from the Internet using HP StorageWorks Library and Tape Tools. Before using this command, a firmware file must have been transferred to the Interface Manager card's firmware repository via FTP. See <a href="#">Updating firmware</a> for more information.		
Syntax	<code>download drive &lt;drive_num&gt; [force]</code>		
Availability	All users and modes		
Operands	<code>&lt;drive_num&gt;</code>	Specify the drive number. All of the drives may be downloaded by specifying "all" for this operand. This operand is required.	
	<code>force</code>	Specify force to skip the prompt asking if you are sure you want to download the firmware. This operand is optional.	

**Examples** To download the firmware repository file to all drives:

```
>/>download drive 1

Downloading drive firmware will cause a reboot of the
drive, and will cause any currently running backups to
fail. Do you wish to continue (press y/n)? y

Downloading firmware to drive 1...
Checking download status until status is download complete
State: IN-PROGRESS           Download Percentage: 10
State: IN-PROGRESS           Download Percentage: 20
State: IN-PROGRESS           Download Percentage: 25
State: IN-PROGRESS           Download Percentage: 30
State: IN-PROGRESS           Download Percentage: 40
State: IN-PROGRESS           Download Percentage: 50
State: REBOOTING              Download Percentage: 60
State: REBOOTING              Download Percentage: 70
State: REBOOTING              Download Percentage: 80
State: REBOOTING              Download Percentage: 90
Success!
```

**See Also** [download interface](#)  
[download mgmt](#)

## download mgmt

**Description** Use this command to download the image of a firmware file to the Interface Manager card.

Firmware files can be retrieved from the Internet using HP StorageWorks Library and Tape Tools. Before using this command, a firmware file must have been transferred to the Interface Manager card's firmware repository via FTP. See [Updating firmware](#) for more information.



**Caution:** Downloading firmware will force a reboot of the Interface Manager card. Make sure that no backup jobs are in progress before running this command.

**Syntax** `download mgmt [force]`

**Availability** All users and modes

**Operands** `force` Specify force to skip the prompt asking if you are sure you want to download the firmware.  
This operand is optional.

**Examples** To download firmware to the Interface Manager card:

```
/>download management

Downloading Interface Manager firmware will cause a reboot of the
Interface Manager, will end the current CLI session, and you will
have to log on again.
Do you wish to continue (press y/n)? y

Downloading firmware to the Interface Manager....done
Bye!
```

**See Also** [download drive](#)  
[download interface](#)

## download library

**Description** Use this command to download the image of a firmware file to the library. Firmware files can be retrieved from the Internet using HP StorageWorks Library and Tape Tools. Before using this command, a firmware file must have been transferred to the Interface Manager card's firmware repository via FTP. See [Updating firmware](#) for more information.



**Caution:** Downloading firmware will force a reboot of the library and all of its devices. Make sure that no backup jobs are in progress before running this command.

**Syntax** `download library [force]`

**Availability** All users and modes

**Operands** `force` Specify force to skip the prompt asking if you are sure you want to download the firmware.  
This operand is optional.

**Examples** To download firmware to the library:

```
/>download library

Downloading library firmware will cause a reboot of the
drive, and will cause any currently running backups to
fail. Do you wish to continue (press y/n)? y

Downloading firmware to the library...
Checking download status until status is download complete
State: IN-PROGRESS           Download Percentage: 10
State: IN-PROGRESS           Download Percentage: 20
State: IN-PROGRESS           Download Percentage: 25
State: IN-PROGRESS           Download Percentage: 30
State: IN-PROGRESS           Download Percentage: 40
State: IN-PROGRESS           Download Percentage: 50
State: REBOOTING              Download Percentage: 60
State: REBOOTING              Download Percentage: 70
State: REBOOTING              Download Percentage: 80
State: REBOOTING              Download Percentage: 90
Success!
```

See Also [download drive](#)  
[download mgmt](#)

## map host

**Description** Use this command to provide a host with access to all of the current drives.



**Caution:** Using this command could force a reboot of some interfaces. Make sure that no backup jobs are in progress before running this command.

**Syntax** `map host <host_num>`

**Availability** All users and modes

**Operands** `<host_num>` Specify the host number  
This operand is required.

**Examples** To give host 1 access to all drives:

```
/>map host 1
Caution: Mapping hosts could force a reboot of some interfaces
and will terminate all backup operations involving the rebooting
interfaces.
Do you really want to map the host? y
Committing configuration...done
```

**See Also** [unmap host](#)  
[set host name](#)  
[show host name](#)



## reboot all

**Description** Use this command to reboot the Interface Manager card and all interfaces.



**Caution:** To avoid loss of data, make sure that all backup jobs have completed before executing this command.

---

**Syntax** `reboot all [force]`

**Availability** All users and manual mode only

**Operands** `force` Specify force to skip the prompt asking if you are sure you want to reboot the Interface Manager card and all interfaces.  
This operand is optional.

**Examples** To reboot the Interface Manager card and all interfaces:

```
/>reboot all
Caution: Rebooting the Interface Manager and all interfaces could
take up to XX seconds, will terminate all backup operations, and
will require you to log on again to use the CLI.
Do you really want to reboot everything (y/n)? y
Rebooting interfaces.....done
Rebooting the Interface Manager
```

To reboot the Interface Manager card and all interfaces, skipping the reboot prompt:

```
/>reboot all force
Rebooting interfaces.....done
Rebooting the Interface Manager
```

**See Also** [reboot interface](#)  
[reboot mgmt](#)

## reboot interface

**Description** Use this command to reboot one or more interfaces. After entering this command, you will be prompted to input whether you are sure you want to reboot the interfaces.



**Caution:** Make sure that an interface is not involved in any backup operations before rebooting it.

**Syntax** `reboot interface <interface_num> [force]`

**Availability** All users and manual mode only

**Operands** `<interface_num>` Specify the interface number. All of the interfaces may be rebooted by specifying "all" for this operand. This operand is required.

`force` Specify force to skip the prompt asking if you are sure you want to reboot the interface(s). This operand is optional.

**Examples** To reboot interface 1:

```
/>reboot interface 1
Caution: Rebooting interfaces could take up to XX seconds and will
terminate all backup operations involving the rebooting
interfaces.
Do you really want to reboot the interface(s) (y/n)? y
Rebooting interfaces.....done
```

To reboot all interfaces, skipping the reboot prompt:

```
/>reboot interface all force
Rebooting interfaces.....done
```

**See Also** [reboot all](#)  
[reboot mgmt](#)

## reboot mgmt

**Description** Use this command to reboot the Interface Manager card. After entering this command, you will be prompted to input whether you are sure you want to reboot the Interface Manager card.



**Caution:** To avoid loss of data, make sure that all backup jobs have completed before executing this command.

---

**Syntax** `reboot mgmt [force]`

**Availability** All users and manual mode only

**Operands** `force` Specify force to skip the prompt asking if you are sure you want to reboot the Interface Manager card.  
This operand is optional.

**Examples** To reboot the Interface Manager card:

```
/>reboot mgmt
Caution: Rebooting the Interface Manager could take up to XX
seconds, and you will have to log on again to use the CLI.
Do you really want to reboot the Interface Manager (y/n)? y
Rebooting the Interface Manager
```

To reboot the Interface Manager card, skipping the reboot prompt:

```
/>reboot mgmt force
Rebooting the Interface Manager
```

**See Also** `reboot all`  
`reboot interface`

## restore interface defaults

**Description** Use this command to restore interfaces to their factory defaults.



**Caution:** Using this command will force a reboot of the interface. Make sure that no backup jobs are in progress before running this command.

**Syntax** `restore interface defaults <interface_num>`

**Availability** All users and manual mode only

**Operands** `<interface_num>` Specify the interface number that will be restored to factory defaults. All of the interfaces may be restored to factory defaults by specifying "all" for this operand. This operand is required.

**Examples** To restore the factory defaults on interface 1:

```
/>restore interface defaults 1
Committing configuration...done
The interface(s) must be rebooted before the new configuration
will take effect.
```

To restore the factory defaults on all interfaces:

```
/>restore interface defaults all
Committing configuration... done
The interfaces(s) must be rebooted before the new configuration
will take effect.
```

**See Also** [setup](#)

## restore system config

**Description** Use this command to restore the system configuration so that it matches the last saved configuration. The system configuration includes all Interface Manager card, interface, and licensed feature configuration.

Before using this command, the system configuration must have been saved using the `save system config` command.

After entering this command, you will be prompted to input whether you are sure you want to restore the system configuration.



**Caution:** This command may cause a reboot of one or more interfaces, causing backup operations to terminate, so make sure that there are no backup operations in process when this command is executed.

**Syntax** `restore system config [force]`

**Availability** All users and auto mode only

**Operands** `force` Specify force to skip the prompt asking if you are sure you want to restore the system configuration to the last saved configuration.

This operand is optional.

**Examples** To restore the system configuration:

```
/>restore system config
Caution: Restoring the system configuration could take up to XX
seconds and may cause interfaces to reboot, terminating backup
operations involving the rebooting interfaces.
Do you really want to restore the system configuration (y/n)? y
Committing configuration...done
Rebooting interfaces.....done
```

To restore the system configuration, skipping the prompt:

```
/>restore system config force
Committing configuration...done
Rebooting interfaces.....done
```

**See Also** `save system config`

## save interface log

**Description** Use this command to save the boot status page, event log, stats log, and trace log to a single file in the Interface Manager card's log repository. This file can be retrieved via FTP.

**Syntax** `save interface log <interface_num>`

**Availability** All users and modes

**Operands** `<interface_num>` Specify the number of the interface.  
This operand is required.

**Examples** To save the log for interface 1:

```
/>save interface log 1
Retrieving and saving log.....done
You can access the file /im/xfer/HP_INTERFACE_LOG via FTP.
```

**See Also** [save mgmt log](#)  
[save interface lttsupportticket](#)

## save drive lttsupportticket

**Description** Use this command to generate an L&T support ticket for a drive. The Interface Manager card will place the support ticket in an anonymous FTP directory, and may be transferred from the Interface Manager card's firmware repository via FTP. The user should log in as anonymous, and they will automatically get a shell in the anonymous FTP directory.

**Syntax** `save drive lttsupportticket <drive_num>`

**Availability** All users and modes

**Operands** `<drive_num>` Specify a drive number. Information for the selected drive is displayed in the support ticket.  
This operand is required.

**Examples** To generate a support ticket for the 3rd drive in the ESL library:

```
/>save drive lttsupportticket 3
Generating support ticket...done
You can get your support ticket by using anonymous FTP.
```

**See Also** `save interface lttsupportticket`  
`save library lttsupportticket`  
`save mgmt lttsupportticket`

## save interface lttsupportticket

**Description** Use this command to generate an L&T support ticket for a FC interface controller. The Interface Manager card will place the support ticket in an anonymous FTP directory, and may be transferred from the Interface Manager card's firmware repository via FTP. The user should log in as anonymous, and they will automatically get a shell in the anonymous FTP directory.

**Syntax** `save interface lttsupportticket <interface_num>`

**Availability** All users and modes

**Operands** `<interface_num>` Specify an interface number. Information for the selected FC interface controller is displayed in the support ticket. This operand is required.

**Examples** To generate a support ticket for the interface 3:

```
/>save interface lttsupportticket 3
Generating support ticket...done
You can get your support ticket by using anonymous FTP.
```

**See Also** `save drive lttsupportticket`  
`save library lttsupportticket`  
`save mgmt lttsupportticket`



## save library lttsupportticket

**Description** Use this command to generate an L&TT support ticket for a library. The Interface Manager card will place the support ticket in an anonymous FTP directory, and may be transferred from the Interface Manager card's firmware repository via FTP. The user should log in as anonymous, and they will automatically get a shell in the anonymous FTP directory.

**Syntax** `save library lttsupportticket`

**Availability** All users and modes

**Operands** none

**Examples** To generate a support ticket for the ESL library:

```
/>save library lttsupportticket
Generating support ticket...done
You can get your support ticket by using anonymous FTP.
```

**See Also** [save drive lttsupportticket](#)  
[save interface lttsupportticket](#)  
[save mgmt lttsupportticket](#)

## save mgmt lttsupportticket

**Description** Use this command to generate an L&TT support ticket for the Interface Manager card. The Interface Manager card will place the support ticket in an anonymous FTP directory, and may be transferred from the Interface Manager card firmware repository via FTP. The user should log in as anonymous, and they will automatically get a shell in the anonymous FTP directory.

**Syntax** `save mgmt lttsupportticket`

**Availability** All users and modes

**Operands** none

**Examples** To generate a support ticket for the Interface Manager card:

```
/>save mgmt lttsupportticket
Generating support ticket...done
You can get your support ticket by using anonymous FTP.
```

**See Also** [save drive lttsupportticket](#)  
[save interface lttsupportticket](#)  
[save library lttsupportticket](#)

## save mgmt log

- Description** Use this command to save a management log to a file in the Interface Manager card's log repository. This file can be retrieved via FTP.
- Syntax** `save mgmt log <filename>`
- Availability** All users and modes
- Operands** `<filename>` Specify the name of the log file. This name represents the name of the file that will be placed in the Interface Manager card's log repository. Valid names include event, trace, history, or all.  
This operand is required.
- Examples** To save the event log for the Interface Manager card:
- ```
/>save mgmt log event
Retrieving and saving log.....done
You can access the file /im/xfer/EventLog.xml via FTP.
```
- See Also** [save interface log](#)  
[save mgmt lttsupportticket](#)

## save system config

**Description** Use this command to save the system configuration so that it can be restored at a later time using the [restore system config](#) command. The system configuration includes all Interface Manager card, interface, and licensed feature configuration. This command will overwrite any previously saved system configuration. After entering this command, you will be prompted to input whether you are sure you want save the system configuration.

**Syntax** `save system config [force]`

**Availability** All users and modes

**Operands** `force` Specify force to skip the prompt asking if you are sure you want to save the current system configuration.  
This operand is optional.

**Examples** To save the system configuration:

```
/>save system config
Caution: Saving the system configuration will overwrite the last
saved system configuration.
Do you really want to save the system configuration (y/n)? y
Saving the system configuration...done
```

To save the system configuration, skipping the prompt:

```
/>save system config force
Saving the system configuration...done
```

**See Also** [restore system config](#)

## set host name

**Description** Use this command to give a host HBA a name. A name is applied to a host using the number of that host as it appears when using the show host name "all" command. If another host already has the specified name, no changes will be made because every host name must be unique. If the specified host already has a name, the new name will be applied, and all resource mapping pools to which the host had been added will be updated to reflect the new name.

**Syntax** set host name <index> <hostname>

**Availability** All users and modes

**Operands** <index> Specify the number of the host to be named.  
<hostname> Specify the name of the host. The host name may contain letters, numbers, and '\_' characters. The maximum length for a host name is 19 characters.  
This operand is required.

**Examples** To set the name of host 1 to "myhost1":

```
/>set host name 1 my_host1  
Committing configuration...done
```

**See Also** [show host name](#)

## set interface hostport alpa

**Description** Use this command to set the ALPA for an interface port when that port's addressing mode is set to hard addressing. If the interface port's mode is not set to hard addressing, the ALPA will be saved and used when the addressing mode is changed to hard addressing.

**Syntax** `set interface hostport alpa <interface_num> <port_num> <address>`

**Availability** All users and manual mode only

**Operands** `<interface_num>` Specify the number of the interface. The ALPA may be changed for all interfaces by specifying "all" for this operand.  
This operand is required.

`<port_num>` Specify the number of the port. The ALPA may be changed for all ports by specifying "all" for this operand.  
This operand is required.

`<address>` Specify the ALPA for the interface port. The ALPA may be either in hex notation or base 10. The hex notation must include the leading "0x", and letter digits may be in upper or lower case. For example, to set the ALPA to 31, this operand could be either 0x1F or 0x1f in hex notation or 31 in base 10.  
This operand is required.

**Examples** To set the ALPA on port 1 of interface 1 to 15:

```
/>set interface hostport alpa 1 1 15
Committing configuration...done
```

**See Also** [show interface hostport alpa](#)  
[ALPA matrix](#)

## set interface hostport connection

**Description** Use this command to set the connection type for one or more interfaces. The connections are either fabric or direct connect.



**Caution:** Using this command will force a reboot of all interfaces. Make sure that no backup jobs are in progress before running this command.

---

**Syntax** `set interface hostport connection fabric|direct`

**Availability** All users and Auto mode only

**Operands** `fabric | direct` Specify the connection type as fabric or direct.  
This operand is required.

**Examples** To set the connection type of all interfaces to "fabric":

```
/>set interface hostport connection fabric
Committing configuration...done
The interface(s) must be rebooted for this command to take effect.
```

**See Also** [show interface hostport connection](#)

## set interface hostport mode

**Description** Use this command to set the port mode for one or more interfaces. If the interface port mode is set to hard addressing, the interface will be given a default ALPA of 0xef (31 decimal). Use the [set interface hostport alpa](#) command to change the ALPA for that interface.

**Syntax** `set interface hostport mode <interface_num> <port_num> hard|soft|nport`

**Availability** All users and manual mode

**Operands** `<interface_num>` Specify the number of the interface. The mode may be changed for all interfaces by specifying "all" for this operand.  
This operand is required.

`<port_num>` Specify the number of the port. The mode may be changed for all ports by specifying "all" for this operand.  
This operand is required.

`hard|soft|nport` Specify the port mode for the interface(s). This operand may be either **hard** for hard addressing, **soft** for soft addressing, or **nport** for fabric addressing.  
This operand is required.

**Examples** To set the port mode of ports on all interfaces to soft addressing:

```
/>set interface hostport mode all all soft
Committing configuration...done
The interface(s) must be rebooted for this command to take effect.
```

**See Also** [show interface hostport mode](#)  
[show interface hostport alpa](#)  
[set interface hostport alpa](#)



## set interface hostport speed

**Description** Use this command to set the port speed for one or more interfaces. The available port speeds are 1 Gbps or 2 Gbps. In automatic mode, changing the interface hostport speed applies to all ports on all interfaces.



**Caution:** Using this command in automatic mode will force a reboot of all interfaces. Make sure that no backup jobs are in progress before running this command.

**Syntax** `set interface hostport speed [<interface_num>] [<port_num>] 1|2`

**Availability** All users and modes

**Operands**

|                                    |                                                                                                                                                                         |
|------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>&lt;interface_num&gt;</code> | Specify the number of the interface. The speed may be changed for all interfaces by specifying "all" for this operand.<br>This operand is required only in manual mode. |
| <code>&lt;port_num&gt;</code>      | Specify the number of the port. The speed may be changed for all ports by specifying "all" for this operand.<br>This operand is required only in manual mode.           |
| <code>1 2</code>                   | Specify 1 or 2 Gbps port speed.<br>This operand is required.                                                                                                            |

**Examples** To set the port speed of all ports on all interfaces to 2 Gbps (this example assumes that you are using manual mode):

```
/>set interface hostport speed all all 2
Committing configuration...done
The interface(s) must be rebooted for this command to take effect.
```

**See Also** `show interface hostport speed`

## set mgmt clock

**Description** Sets the date and time on the Interface Manager card.

**Syntax** `set mgmt clock <time>`

**Availability** All users and modes

**Operands** `<time>` Specify the date and time as a string in the format:

`mmddhhmmyy`

where:

`mm` is the month, valid values are 01-12

`dd` is the date, valid values are 01-31

`hh` is the hour, valid values are 00-23

`mm` is minutes, valid values are 00-59

`yy` is the year, valid values are 00-37

This operand is required.

**Examples** To change the current date and time on the Interface Manager card to February 27, 2001 12:30:00:

```
/>set mgmt clock 0227123001  
Committing configuration...done.
```

**See Also** [show mgmt clock](#)

## set mgmt password

**Description** Use this command to set the password for the current user. This command checks for a strong password and warns if the password is not a strong password (although it does not require a strong password). After using this command, the new password must be used to log in to the CLI.

**Syntax** `set mgmt password`

**Availability** All users and modes

**Operands** none

**Examples** To change the password to "mypassword":

```
/> set mgmt password  
  
Changing password for user cliadmin  
New UNIX password: clipwd  
BAD PASSWORD: it is based on a dictionary word  
Retype new UNIX password: clipwd
```

## set mgmt timezone

**Description** Use this command to set the Interface Manager card time zone.

**Syntax** set mgmt timezone  
<zone>

**Availability** All users and modes

**Operands** <zone> Specify the time zone number that corresponds with the list that is displayed.

This operand is required

**Examples** To change the Interface Manager card time zone to that for Denver, Colorado:

```

/>set mgmt timezone
Number  Timezone
-----
63      America/Belize
64      America/Boa_Vista
65      America/Bogota
66      America/Boise
67      America/Buenos_Aires
68      America/Cambridge_Bay
69      America/Cancun
70      America/Caracas
71      America/Catamarca
72      America/Cayenne
73      America/Cayman
74      America/Indiana/Indianapolis
75      America/Chicago
76      America/Chihuahua
77      America/Cordoba
78      America/Costa_Rica
79      America/Cuiaba
80      America/Curacao
81      America/Danmarkshavn
82      America/Dawson_Creek
83      America/Denver
84      America/Detroit
85      America/Dominica
86      America/Edmonton
87      America/Eirunepe
88      America/El_Salvador
89      America/Ensenada
90      America/Fort_Wayne
91      America/Fortaleza
92      America/Glace_Bay
93      America/Godthab
94      America/Goose_Bay
95      America/Grand_Turk
96      America/Grenada
97      America/Guadeloupe
98      America/Guatemala
99      America/Guayaquil
100     America/Guyana
101     America/Halifax
102     America/Havana
103     America/Hermosillo
104
105     America/Indiana/Knox
106     America/Indiana/Marengo
107     America/Indiana/Vevay
108     America/Indianapolis
109     America/Inuvik
110     America/Iqaluit
111     America/Jamaica
112     America/Jujuy
113     America/Juneau
114     America/Kentucky/Louisville
115     America/Kentucky/Monticello
116     America/Knox_IN
117     America/La_Paz
118     America/Lima
119     America/Los_Angeles
120     America/Louisville
121     America/Maceio
122     America/Managua
123     America/Manaus
124     America/Martinique
Enter the timezone number to select a timezone, 'm' to print more
possible
timezones or 'q' to quit without selecting a timezone [default = 'm']: 83
Committing configuration...done

```

See Also [show mgmt timezone](#)

## set mode

**Description** Use this command to set the Interface Manager mode for the current user to auto or manual. Switching from manual to auto mode may cause configuration changes made while in manual mode to be lost, and will require the user to go through the basic setup steps provided by the [setup](#) command.

**Syntax** `set mode auto|manual`

**Availability** All users and modes

**Operands** `auto|manual` Specify auto or manual mode as required.  
This operand is required.  
`[force]` Use this operand to skip basic setup when switching to auto mode.

**Examples** To set the mode to auto:

```
/>set mode auto
Changing mode...done
Now entering basic setup!
```

**See Also** [show mode](#)  
[setup](#)

## set network dhcp

**Description** Use this command to enable or disable DHCP mode to set the Interface Manager card IP address. If DHCP is disabled, the Interface Manager card IP address, gateway address, and subnet mask must be set using [set network ipaddress](#) before the Interface Manager CLI can be accessed via Telnet.

**Syntax** `set network dhcp`

**Availability** All users and modes

**Operands** none

**Examples** To enable using DHCP to set the IP address of the Interface Manager card:

```
/>set network dhcp  
Committing configuration...done
```

**See Also** [show network dhcp](#)  
[set network ipaddress](#)  
[show network ipaddress](#)

## set network ipaddress

|              |                                                                                                                                                          |                                                                                                      |
|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|
| Description  | Use this command to set the IP address, subnet mask, and gateway address for the Interface Manager card. This command automatically disables DHCP mode.  |                                                                                                      |
| Syntax       | set network ipaddress <ip> <subnet> <gateway>                                                                                                            |                                                                                                      |
| Availability | All users and modes                                                                                                                                      |                                                                                                      |
| Operands     | <ip>                                                                                                                                                     | Specify the IP address that the Interface Manager card should use.<br>This operand is required.      |
|              | <subnet>                                                                                                                                                 | Specify the subnet mask that the Interface Manager card should use.<br>This operand is required.     |
|              | <gateway>                                                                                                                                                | Specify the gateway address that the Interface Manager card should use.<br>This operand is required. |
|              |                                                                                                                                                          |                                                                                                      |
| Examples     | To immediately change the IP address to 207.46.249.190, change the subnet mask to 255.255.248.0, and change the current gateway address to 207.46.249.0: |                                                                                                      |
|              | <pre>/&gt;set network ipaddress 207.46.249.190 255.255.248.0 207.46.249.0<br/>Committing configuration...done<br/>Closing telnet session.</pre>          |                                                                                                      |
| See Also     | <a href="#">show network dhcp</a><br><a href="#">set network dhcp</a><br><a href="#">show network ipaddress</a>                                          |                                                                                                      |

## set system assetnumber

**Description** Use this command to set the system asset number.

**Syntax** `set system assetnumber <ID>`

**Availability** All users and modes

**Operands** `<ID>` Specify the system asset number. The system asset number must only be composed of letters and numbers. Its maximum length is 63 characters.  
This operand is required.

**Examples** To set the system asset number to **123456ABCD**:

```
/>set system assetnumber 123456ABCD  
Committing configuration...done
```

**See Also** [show system assetnumber](#)



## set system contact email

Description Sets the system contact e-mail address.

Syntax `set system contact email <address>`

Availability All users and modes

Operands *<address>*

Specify the system contact e-mail address. The email address must conform to the email address format specified in RFC 821.

This operand is required.

Examples To set the system contact e-mail address to myname@myorg.com:

```
/>set system contact email myname@myorg.com  
Committing configuration...done
```

See Also [show system contact email](#)  
[show system contact name](#)

## set system contact name

**Description** Use this command to set the system contact name.

**Syntax** `set system contact name <new_name>`

**Availability** All users and modes

**Operands** `<new_name>` Specify the system contact name. The system contact name must only be composed of letters, numbers, and the '\_' character. Its maximum length is 19 characters. This operand is required.

**Examples** To set the system contact name to myfirstname\_mylastname:

```
/>set system contact name myfirstname_mylastname  
Committing configuration...done
```

**See Also** [show system contact name](#)  
[show system contact email](#)

## set system contact pager

- Description** Use this command to set the system contact pager number.
- Syntax** `set system contact pager <number>`
- Availability** All users and modes
- Operands** *<number>* Specify the system contact pager number. The system contact pager number can include alphanumeric characters, dashes, periods, or the '\_' character. This operand is required.
- Examples** To set the system contact pager number to "444-444-4444":
- ```
/>set system contact pager 444-444-4444  
Committing configuration...done
```
- See Also** [show system contact phone](#)  
[show system contact email](#)

## set system contact phone

Description	Use this command to set the system contact phone number.	
Syntax	<code>set system contact phone &lt;number&gt;</code>	
Availability	All users and modes	
Operands	<i>&lt;number&gt;</i>	Specify the system contact phone number. The system contact phone number can include alphanumeric characters, dashes, periods, or the '_' character. This operand is required.
Examples	To set the system contact phone number to "(444) 444-4444": <pre data-bbox="334 548 1283 605">/&gt;set system contact phone 444-444-4444 Committing configuration...done</pre>	
See Also	<a href="#">show system contact phone</a> <a href="#">show system contact pager</a>	

## set system location

**Description** Use this command to set the system location.

**Syntax** `set system location <location>`

**Availability** All users and modes

**Operands** *<location>* Specify the system location. The system location must only be composed of letters, and numbers. Its maximum length is 63 characters.  
This operand is required.

**Examples** To set the system location to "my\_system\_location":

```
/>set system location my_system_location  
Committing configuration...done
```

**See Also** [show system location](#)

## set system name

**Description** Use this command to set the system name.

**Syntax** `set system name <system_name>`

**Availability** All users and modes

**Operands** `<system_name>` Specify the name of the tape library. The tape library name may contain letters, numbers, and '\_' characters. The maximum length for a tape library name is 19 characters

This operand is required.

**Examples** To set the system name to "my\_system":

```
/>set system name my_system  
Committing configuration...done
```

**See Also** [show system name](#)

## setup

Description	Use this command to run the Basic Setup wizard. The Basic Setup wizard takes you through a set of prompts which will allow you to perform all of the configuration steps necessary to get your system running.
Syntax	setup
Availability	All users and auto mode
Operands	none
Examples	Here is an example showing the use of the basic setup wizard:

```

/>setup
Starting the basic configuration wizard.
Current/default values are indicated in square brackets, and can
be accepted by pressing the enter key.
Enter q to quit without saving, and s to save entered information
and quit.
System name [my_system]:
System asset number []: 123456ABCD
System location []: my_system_location
System contact name []: firstname_lastname
System contact phone number [222-222-2222]: 444-444-4444
System contact email address []: myname@myorg.com
Current time ("mmddhhmmyy") [0927133302]: 1204083602
Current time zone ([-]hhmm) [0000]: -0700
Tape library name []: mylibrary

Current hosts:
Host #      Node WWN              Port WWN              Current Name    On-line?
-----
1           11111111111111CC 11111111111111DD host1           yes
2           22222222222222CC 22222222222222DD host2           yes
3           33333333333333CC 33333333333333DD host3           yes

Would you like to add an additional off-line host (y/[n])? y
Host node WWN: 44444444444444CC
Name for this host [host4]: myhost4
Host added.

Current hosts:
Host #      Node WWN              Port WWN              Current Name    On-line?
-----
1           11111111111111CC 11111111111111DD host1           yes
2           22222222222222CC 22222222222222DD host2           yes
3           33333333333333CC 33333333333333DD host3           yes
4           44444444444444CC 44444444444444DD myhost4         no

Would you like to add an additional off-line host (y/[n])? n

Would you like to change the host names (y/[n])? y
New name for host "host1" [host1]: myhost1
New name for host "host2" [host2]: myhost2
New name for host "host3" [host3]: myhost3
New name for host "myhost4" [myhost4]:

```

(continued)

```
Current host access to tape drives:
Host # Host Name      On-line? Access?
-----
1      myhost1         yes    no
2      myhost2         yes    yes
3      myhost3         yes    yes
4      myhost4         no     no

Would you like to change host access to the tape drives (y/[n])? y
Give on-line host "myhost1" access to tape drives (y/[n])? y
Give on-line host "myhost2" access to tape drives ([y]/n)? n
Give on-line host "myhost3" access to tape drives ([y]/n)? n
Give off-line host "myhost4" access to tape drives (y/[n])? y

Basic configuration is complete.
```

See Also [show system info](#)



## show directbackup

**Description** Use this command to show the total number of direct backup licenses purchased, the number of used direct backup licenses, and the number of available direct backup licenses for the tape library. This command also shows which drives currently have direct backup activated.

**Syntax** `show directbackup`

**Availability** All users and modes

**Operands** none

**Examples** To show direct backup licensed feature information:

```
/>show directbackup
Currently, 4 of 8 units of the direct backup feature are being used.

Drive Name      Direct Backup Activated?
-----
mydrive1        yes
mydrive2        yes
mydrive3        yes
mydrive4        yes
mydrive5        no
mydrive6        no
mydrive7        no
mydrive8        no
```

**See Also** [add directbackup](#)

## show drive access

**Description** Use this command to show which hosts have access to one or more tape drives. For each tape drive, a list of hosts will be displayed. For each host, the target LUN that gives the host access to the drive will be shown.

**Syntax** `show drive access <drive_num>`

**Availability** All users and modes

**Operands** `<drive_num>` Specify the tape drive for which to display access information. The access information may be displayed for all tape drives by specifying "all" for this operand. This operand is required.

**Examples** To show tape drive access information for the drives named all:

```
/>show drive access 1
Access information for drive 1:
Host      Host Name      WW Node Name      LUN  Port
1         myhost1             FFFFFFFFFFFFFFFF  1    1
```

**See Also** `show drive info`  
`show drive interface`  
`show drive name`  
`show drive productid`  
`show drive revision`  
`show drive serialnumber`  
`show drive status`  
`show drive type`  
`map host`  
`unmap host`

## show drive info

**Description** Use this command to show all information pertaining to one or more tape drives. This information includes the tape drive status.

**Syntax** show drive info <drive\_num>

**Availability** All users and modes

**Operands** <drive\_num> Specify a tape drive that will have its' information displayed. The information may be displayed for all tape drives by specifying "all" for this operand.

This operand is required.

**Examples** To show all information for the tape drives named all:

```

/>show drive info all
Tape Drive status:
Drive Number  Name                      Status
-----
Drive 1       drive 1                    Green
Drive 2       drive 2                    Green

*****
Access information for drive 1:
Host          Host Name                      WW Node Name          LUN  Port
-----
none          none                      none                  N/A  N/A

Access information for drive 2:
Host          Host Name                      WW Node Name          LUN  Port
-----
none          none                      none                  N/A  N/A

*****
Tape drive interface information:
Drive Number  Interface Card Name          Interface WW Node Name
-----
Drive 1       100000e00202733b            100000e00202733b
Drive 2       100000e00202733b            100000e00202733b

*****
Tape drive product ID:
Drive Number  Serial Number          Name                      Product ID
-----
Drive 1       HU72M09609             drive 1                   Ultrium 1-SCSI
Drive 2       HU72M09608             drive 2                   Ultrium 1-SCSI

*****
Tape Drive firmware revision:
Drive Number  Name                      Revision
-----
Drive 1       drive 1                   E33W
Drive 2       drive 2                   E33W

```

See Also `show drive access`  
`show drive interface`  
`show drive name`  
`show drive productid`  
`show drive revision`  
`show drive serialnumber`  
`show drive status`  
`show drive type`

## show drive interface

**Description** Use this command to show interface information pertaining to one or more tape drives.

**Syntax** `show drive interface <drive_num>`

**Availability** All users and modes

**Operands** `<drive_num>` Specify the tape drive for which to display interface information. The interface information may be displayed for all tape drives by specifying "all" for this operand.

This operand is required.

**Examples** To show interface information for drive 1:

```
/>show drive interface 1
Tape drive interface information:
Drive Number      Interface Name    FC LUN Bus
-----
Drive 1           myintfcl         1      0
```

**See Also** `show drive access`  
`show drive info`  
`show drive name`  
`show drive productid`  
`show drive revision`  
`show drive serialnumber`  
`show drive status`  
`show drive type`  
`show interface info`

## show drive name

**Description** Use this command to show the name, serial number, and drive type of one or more tape drives based on tape drive bay numbers. If a tape drive is missing from a bay or the tape drive in that bay is offline, the tape drive serial number and type will be blank.

**Syntax** `show drive name <drive_num>`

**Availability** All users and modes

**Operands** `<drive_num>` Specify a tape drive number whose tape drive name, serial number, and type will be displayed. The tape drive names, serial numbers, and types can be displayed for all tape drive by specifying "all" for this operand.  
This operand is required.

**Examples** To show tape drive names, serial numbers, and types for all tape drives:

```
/>show drive name all
Tape drive name information:
Drive Number  Serial Number      Type                Name
-----
Drive 1       IE71L07088      Ultrium 1-SCSI     drive 1
Drive 2       IE71L06811      Ultrium 1-SCSI     drive 2
```

**See Also** `show drive access`  
`show drive info`  
`show drive interface`  
`show drive productid`  
`show drive revision`  
`show drive serialnumber`  
`show drive status`  
`show drive type`

## show drive productid

**Description** Use this command to show the product ID of one or more tape drives.

**Syntax** `show drive productid <drive_num>`

**Availability** All users and modes

**Operands** `<drive_num>` Specify a tape drive for which to display the product ID. The tape drive product ID may be displayed for all tape drives by specifying "all" for this operand. This operand is required.

**Examples** To show the product ID for all tape drives:

```
/>show drive productid all
Tape drive product ID:
Drive Number      Product ID
-----
Drive 1           Ultrium 1-SCSI
```

**See Also** [show drive access](#)  
[show drive info](#)  
[show drive interface](#)  
[show drive name](#)  
[show drive revision](#)  
[show drive serialnumber](#)  
[show drive status](#)  
[show drive type](#)

## show drive revision

**Description** Use this command to show the firmware revision of one or more tape drives.

**Syntax** `show drive revision <drive_num>`

**Availability** All users and modes

**Operands** `<drive_num>` Specify a tape drive for which to display the firmware revision. The tape drive firmware revision may be displayed for all tape drives by specifying "all" for this operand.

This operand is required.

**Examples** To show the firmware revision for all tape drives:

```
/>show drive revision all
Tape drive firmware revision:
Drive Number      Firmware Revision
-----
Drive 1           AEFF
Drive 2           AEFF
```

**See Also** [show drive access](#)  
[show drive info](#)  
[show drive interface](#)  
[show drive name](#)  
[show drive productid](#)  
[show drive serialnumber](#)  
[show drive status](#)  
[show drive type](#)



## show drive serialnumber

**Description** Use this command to show the serial number of one or more tape drives.

**Syntax** `show drive serialnumber <drive_num>`

**Availability** All users and modes

**Operands** `<drive_num>` Specify a tape drive for which to display the serial number. The tape drive serial number may be displayed for all tape drives by specifying "all" for this operand. This operand is required.

**Examples** To show the serial number for all tape drives:

```
/>show drive serialnumber all
Tape drive serial number:
Drive Number      Serial Number
-----
Drive 1           22222222222222
Drive 2           33333333333333
```

**See Also** [show drive access](#)  
[show drive info](#)  
[show drive interface](#)  
[show drive name](#)  
[show drive productid](#)  
[show drive revision](#)  
[show drive status](#)  
[show drive type](#)

## show drive status

**Description** Use this command to show the status of one or more tape drives.

**Syntax** `show drive status <drive_num>`

**Availability** All users and modes

**Operands** `<drive_num>` Specify a tape drive for which to display the status. The tape drive status may be displayed for all tape drives by specifying "all" for this operand.  
This operand is required.

**Examples** To show the status for all tape drives:

```
/>show drive status all
Tape Drive status:
```

Drive Number	serialNumber	Status	Is Available	Firmware Mismatch	Has Errors
Drive 1	HU72M09167	Green	No	No	No
Drive 2	HU72M09172	Yellow	Yes	Yes	Yes*

\*Use the command 'show drive status' with a specific drive number to see specific errors for this device.

**See Also** `show drive access`  
`show drive info`  
`show drive interface`  
`show drive name`  
`show drive productid`  
`show drive revision`  
`show drive serialnumber`  
`show drive type`

## show drive type

- Description** Use this command to show the tape drive type for one or more tape drives.
- Syntax** `show drive type <drive_num>`
- Availability** All users and modes
- Operands** `<drive_num>` Specify a tape drive for which to display the type. The type may be displayed for all tape drives by specifying "all" for this operand.  
This operand is required.
- Examples** To show the tape drive type for all tape drives:

```
/>show drive type all
Tape drive type:
Drive Number      type
-----
Drive 1           Ultrium 1-SCSI
Drive 2           Ultrium 1-SCSI
```

- See Also** [show drive access](#)  
[show drive info](#)  
[show drive interface](#)  
[show drive name](#)  
[show drive productid](#)  
[show drive revision](#)  
[show drive serialnumber](#)  
[show drive status](#)

## show firmware available

**Description** Use this command to show the firmware files and revisions available to be downloaded to devices.

**Syntax** `show firmware available`

**Availability** All users and modes

**Operands** none

**Examples** To show the available firmware files and revisions:

```
/>show firmware available
Firmware Revision  VendorId      ProductID
-----
i100              HP          INTRFC-MGR01
1.05              HP          NS E2400-160
E36R              HP          Ultrium 1-SCSI
```

**See Also** [show firmware revisions](#)

## show firmware revisions

**Description** Use this command to show the current firmware revisions installed in the Interface Manager card and FC interface controllers.

**Syntax** show firmware revisions

**Availability** All users and modes

**Operands** none

**Examples** To show the current firmware revisions:

```
[service]/>show firmware revisions
Current Firmware Revisions
Overall firmware revision: 2.00.0

Interface manager firmware revision: 1.01

Tape library firmware revision: 3.456

Tape drive firmware revision:
Drive Number      Firmware Revision
-----
Drive 1           AEFF
Drive 2           AEFF
Drive 3           AEFF
Drive 4           AEFF
Drive 5           AEFF
Drive 6           AEFF
Drive 7           AEFF
Drive 8           AEFF

Interface firmware revision:
Interface Number  Firmware Revision
-----
1                2.02
2                2.02
3                2.02
4                2.02
```

See Also [show firmware available](#)

## show host access

**Description** Use this command to show which tape drives all hosts have access to. For each tape drive, the LUN to which the host or hosts have access is displayed.

**Syntax** `show host access`

**Availability** All users and modes

**Operands** none

**Examples** To show host access information for the hosts:

```
/>show host access
Access information for host 1 (WWNN: 0123456700000000) :
  Device      LUN  Port
  -----
  Drive 1     1    1

Access information for host 2 (WWNN: 0000000000000004) :
  Device      LUN  Port
  -----
  Drive 1     1    1
```

**See Also** [show host info](#)  
[show interface access](#)

## show host info

**Description** Use this command to show the name, node WWN, port WWN, and mapped status of all hosts.

**Syntax** `show host info`

**Availability** All users and modes

**Operands** none

**Examples** To show information for all hosts:

```
/>show host info

Host name information:
Host #      Node WWN          Port WWN          Current Name      Mapped
-----
1           11111111111111CC 11111111111111DD myhost1           yes
2           22222222222222CC 22222222222222DD myhost2           no
```

**See Also** [show host name](#)  
[show interface info](#)

## show host name

**Description** Use this command to show the name, node WWN, port WWN, and mapped status of all hosts.

**Syntax** `show host name`

**Availability** All users and modes

**Operands** none

**Examples** To show host names, world wide names, and mapped statuses for all hosts:

```
/>show host name
Host name information:
Host #      Node WWN          Port WWN          Current Name      Mapped
-----
1          11111111111111CC 11111111111111DD myhost1           yes
2          22222222222222CC 22222222222222DD myhost2           no
```

**See Also** [set host name](#)



## show interface access

**Description** Use this command to show access information at the interface level. This command lists all tape drives connected to the specified interface. For each tape drive listed, the command shows which hosts have access to it, and the target LUN giving the host access to the drive.

**Syntax** `show interface access <interface_num>`

**Availability** All users and modes

**Operands** `<interface_num>` Specify the interface for which to display access information. The access information may be displayed for all interfaces by specifying "all" for this operand. This operand is required.

**Examples** To show interface access information for interface 1:

```
/>show interface access 1
Interface access information:
Interface 1 tape drives:
  Access information for drive 1:
    Host      Host Name      WW Node Name      LUN  Port
    -----
    1          myhost1      FFFFFFFFFFFFFFFF  1    1
```

**See Also** [show drive access](#)

## show interface hostport alpa

**Description** Use this command to show the ALPA of one or more interfaces. This will also indicate whether the interfaces currently have their port mode set to hard addressing or are using the ALPAs.

**Syntax** `show interface hostport alpa <interface_num> <port_num>`

**Availability** All users and modes

**Operands** `<interface_num>` Specify an interface number. The ALPA may be displayed for all interfaces by specifying "all" for this operand.

This operand is required.

`<port_num>` Specify a port number. The ALPA may be displayed for all ports by specifying "all" for this operand.

This operand is required.

**Examples** To show the ALPAs for all interfaces:

```
/>show interface hostport alpa all all
Interface ALPAs (* indicates ALPA is not set):
Interface Card   WW Port Name      ALPA Port Mode
-----
1
  hostport1      FFFFFFFFFFFFFFFF  0x71 hard
  hostport2      AAAAAAAAAAAAAAAA  0x96 hard
```

**See Also** [set interface hostport alpa](#)  
[ALPA matrix](#)

## show interface hostport connection

**Description** Use this command to show the connection type for one or more interfaces.

**Syntax** `show interface hostport alpa <interface_num> <port_num>`

**Availability** All users and modes

**Operands** `<interface_num>` Specify an interface number. The connection type may be displayed for all interfaces by specifying "all" for this operand.

This operand is required.

`<port_num>` Specify a port number. The connection type may be displayed for all ports by specifying "all" for this operand.

This operand is required.

**Examples** To show the connection type for all interfaces:

```
/>show interface hostport connection all all
Interface connection type:
Interface Card   WW Port Name      Connection Type
-----
1
  hostport1      FFFFFFFFFFFFFFFF   fabric
  hostport2      AAAAAAAAAAAAAAAA   fabric
```

**See Also** [set interface hostport connection](#)

## show interface hostport mode

**Description** Use this command to show the port modes of one or more interfaces.

**Syntax** `show interface hostport mode <interface_num> <port_num>`

**Availability** All users and modes

**Operands** `<interface_num>`

Specify an interface number. The mode may be displayed for all interfaces by specifying "all" for this operand.

This operand is required.

`<port_num>`

Specify a port number. The mode may be displayed for all ports by specifying "all" for this operand.

This operand is required.

**Examples** To show the port modes for all interfaces:

```
/>show interface hostport mode all all
Interface port mode:
Interface Card   WW Port Num      Connection type
-----
1
  hostport1      FFFFFFFFFFFFFFFF  N-Port
  hostport2      AAAAAAAAAAAAAAAA  N-Port
```

**See Also** [set interface hostport mode](#)

## show interface hostport speed

Description	Use this command to show the port speeds of one or more interfaces.		
Syntax	show interface hostport speed <interface_num> <port_num>		
Availability	All users and manual mode		
Operands	<interface_num>	Specify the number of the interface. The value may be changed for all interfaces by specifying "all" for this operand. This operand is required.	
	<port_num>	Specify the number of the port. The value may be changed for all ports by specifying "all" for this operand. This operand is required.	

Examples To show the port speeds for interface 1:

```
[service]/>show interface hostport speed 1 all
Interface port speed:
Interface Card   WW Port Num      Speed
-----
1
  hostport1      FFFFFFFFFFFFFFFF  2 Gbpsec
  hostport2      AAAAAAAAAAAAAAAA  2 Gbpsec
```

See Also [set interface hostport speed](#)

## show interface info

**Description** Use this command to show all information pertaining to one or more interfaces.

**Syntax** `show interface info <interface_num>`

**Availability** All users and modes

**Operands** `<interface_num>` Specify an interface number. The information may be displayed for all interfaces by specifying "all" for this operand.

This operand is required.

**Examples** To show all information for all interfaces:

```

/>show interface info all
Interface information:
Interface status:
Interface Name      Status
-----
myintfc1           Good
myintfc2           Downloading

*****
Interface access information:
Interface myintfc1 tape drives:
Tape Drive
-----
mydrive1
mydrive2

Tape drive access information:
mydrive1
Host Name      Drive  LUN Pool
-----
myhost1        1          mypool1
myhost2        1          mypool1
myhost3        2          mypool3

mydrive2
Host Name      Drive  LUN Pool
-----
myhost1        2          mypool1
myhost2        2          mypool1
myhost3        4          mypool3

*****
Interface myintfc2 tape drives:
Tape Drive
-----
mydrive3
mydrive4

Tape drive access information:
mydrive3
Host Name      Drive  LUN Pool
-----
myhost1        3          mypool1
myhost2        3          mypool1
myhost3        1          mypool3

```

```

mydrive4
Host Name      Drive  LUN  Pool
-----
myhost1        4          mypool1
myhost2        4          mypool1
myhost3        3          mypool3

*****
Interface ALPAs (* indicates ALPA is not set):
Interface Name  ALPA  Port  Mode
-----
myintfc1        *      nport
myintfc2        0x23  hard

*****
Interface time and date:      (Only displayed for service user or manual mode)
Interface Name  Date      Time
-----
myintfc1        12/14/2002 13:02
myintfc2        12/14/2002 13:01

*****
Interface connection type:
Interface Name  Connection Type
-----
myintfc1        fabric
myintfc2        fabric

*****
Interface event mask:      (Only displayed for service user)
Interface Name  Event Mask
-----
myintfc1        0xFF
myintfc2        0x01

*****
Interface Fibre Channel discovery mode:      (Only displayed for service user
or manual mode)
Interface Name  Fibre Channel Discovery Mode
-----
myintfc1        reboot
myintfc2        reboot

*****
Interface name information:
Interface #  Node WWN          Port WWN          Current Name
-----
1            11111111111111CC  11111111111111DD  myhost1
2            22222222222222CC  22222222222222DD  myhost2

*****
Interface initiator ID(s):
Interface Name  Initiator ID(s)
-----
myintfc1        6, 7
myintfc2        7

*****
Interface port mode:
Interface Name  Port Mode
-----
myintfc1        nport
myintfc2        hard

```

```

*****
Interface port speed:      (Only displayed for service user or manual mode)
Interface Name    Port Speed
-----
myintfc1         1 Gbpsec
myintfc2         1 Gbpsec

*****
Interface firmware revision:
Interface Name    Firmware revision
-----
myintfc1         2.00
myintfc2         2.00

*****
Interface SCSI device discovery:      (Only displayed for service user)
Interface Name    SCSI Device Discovery
-----
myintfc1         enabled
myintfc2         enabled

*****
Interface SCSI device discovery delay:      (Only displayed for service user)
Interface Name    SCSI Device Discovery Delay
-----
myintfc1         300 seconds
myintfc2         300 seconds

*****
Interface statistics gathering:      (Only displayed for service user)
Interface Name    Statistics Gathering
-----
myintfc1         enabled
myintfc2         enabled

*****
Interface target reset mode:      (Only displayed for service user or manual mode)
Interface Name    Target Reset Mode
-----
myintfc1         standard
myintfc2         standard

*****
Interface trace level:      (Only displayed for service user)
Interface Name    Trace Levels
-----
myintfc1         2, 4
myintfc2         2, 4

*****
Interface write buffering:      (Only displayed for service user or manual mode)
Interface Name    Write Buffering
-----
myintfc1         enabled
myintfc2         enabled

```

See Also [show drive info](#)



## show interface name

**Description** Use this command to show the name and node WWN of one or more interfaces.

**Syntax** `show interface name <interface_num>`

**Availability** All users and modes

**Operands** `<interface_num>` Specify the interface number for which to display interface names and world wide names. The information can be displayed for all interfaces by specifying "all" for this operand.

This operand is required.

**Examples** To show interface names and world wide names all interfaces:

```
/>show interface name all
Interface name information:
Interface Card      Node WWN            Current Name
-----
1                  11111111111111CC   myhost1
2                  22222222222222CC   myhost2
```

**See Also** [show drive name](#)

## show interface revision

**Description** Use this command to show the firmware revision of one or more interfaces.

**Syntax** `show interface revision <interface_num>`

**Availability** All users and modes

**Operands** `<interface_num>` Specify an interface whose firmware revisions will be displayed. The firmware revisions may be displayed for all interfaces by specifying "all" for this operand. This operand is required.

**Examples** To show the firmware revisions for all interfaces:

```
/>show interface revision all
Interface firmware revision:
Interface Card      WW Node Name      Firmware Revision
-----
1                   100000e0020286d1  5.01
2                   100000e00202733b  5.01
```

**See Also** [show firmware revisions](#)

## show interface status

**Description** Use this command to show the status of one or more interfaces.

**Syntax** `show interface status <interface_num>`

**Availability** All users and modes

**Operands** `<interface_num>` Specify an interface for which to display the status. The interface status may be displayed for all interfaces by specifying "all" for this operand. This operand is required.

**Examples** To show the status for all interfaces:

```
/>show interface status all
Interface status:
Interface Card      Firmware  Reboot    Has
Errors             WW Node Name   Status    State    Mismatch  Required
-----
Interface Card 1   bb5ea468bb5ea354  Green    Online   No        No
No
Interface Card 2   bb4ff343236bc023  Yellow   Offline  Yes       Yes
Yes*

*Use the command 'show interface status' with a specific interface number
to see specific errors for this device.
```

**See Also** [show interface info](#)

## show interface targetport alpa

**Description** Use this command to show the ALPA of one or more interfaces. This will also indicate whether the interfaces currently have their port mode set to hard addressing or are using the ALPAs.

**Syntax** `show interface targetport alpa <interface_num> <port_num>`

**Availability** All users and modes

**Operands** `<interface_num>` Specify an interface number. The ALPA may be displayed for all interfaces by specifying "all" for this operand.

This operand is required.

`<port_num>` Specify a port number. The ALPA may be displayed for all ports by specifying "all" for this operand.

This operand is required.

**Examples** To show the ALPAs for all interfaces:

```
/>show interface targetport alpa all all
Interface ALPAs (* indicates ALPA is not set):
Interface Card   WW Port Name      ALPA Port Mode
-----
1
  hostport1      FFFFFFFFFFFFFFFF  0x71 hard
  hostport2      AAAAAAAAAAAAAAAA  0x96 hard
```

**See Also** [set interface hostport alpa](#)  
[ALPA matrix](#)

## show interface targetport connection

**Description** Use this command to show the connection type for one or more interfaces.

**Syntax** show interface targetport alpa <interface\_num> <port\_num>

Availability	All users and modes
--------------	---------------------

Operands	<p><i>&lt;interface_num&gt;</i></p> <p>Specify an interface number. The connection type may be displayed for all interfaces by specifying "all" for this operand.</p>
----------	---

This operand is required.

*<port\_num>*

Specify a port number. The connection type may be displayed for all ports by specifying "all" for this operand.

This operand is required.

Examples To show the connection type for all interfaces:

```
>show interface targetport connection all all
Interface connection type:
Interface Card      WW Port Name      Connection Type
-----
1
  hostport1         FFFFFFFFFFFFFFFF   fabric
  hostport2         AAAAAAAAAAAAAAAA   fabric
```

See Also [set interface hostport connection](#)

## show interface targetport mode

**Description** Use this command to show the port modes of one or more interfaces.

**Syntax** `show interface targetport mode <interface_num> <port_num>`

**Availability** All users and modes

**Operands** `<interface_num>`

Specify an interface number. The mode may be displayed for all interfaces by specifying "all" for this operand.

This operand is required.

`<port_num>`

Specify a port number. The mode may be displayed for all ports by specifying "all" for this operand.

This operand is required.

**Examples** To show the port modes for all interfaces:

```
/>show interface targetport mode all all
Interface port mode:
Interface Card   WW Port Num      Connection type
-----
1
  hostport1      FFFFFFFFFFFFFFFF  N-Port
  hostport2      AAAAAAAAAAAAAAAA  N-Port
```

**See Also** [set interface hostport mode](#)

# show interface targetport speed

Description	Use this command to show the port speeds of one or more interfaces.		
Syntax	show interface targetport speed <interface_num> <port_num>		
Availability	All users and manual mode		
Operands	<interface_num>	Specify the number of the interface. The value may be changed for all interfaces by specifying "all" for this operand. This operand is required.	
	<port_num>	Specify the number of the port. The value may be changed for all ports by specifying "all" for this operand. This operand is required.	

Examples    To show the port speeds for interface 1:

```
[service]/>show interface targetport speed 1 all
Interface port speed:
Interface Card   WW Port Num      Speed
-----
1
  hostport1      FFFFFFFFFFFFFFFF  2 Gbpsec
  hostport2      AAAAAAAAAAAAAAAA  2 Gbpsec
```

See Also    [set interface hostport speed](#)

## show library access

**Description** Use this command to show which hosts have access to the tape library. For each host, the target LUN that gives the host access to the library is shown.

**Syntax** `show library access`

**Availability** All users and modes

**Operands** none

**Examples** To show tape library access information:

```
/>show library access
Access information for the tape library:
Host      Host Name      WW Node Name      LUN  Port
-----
1         myhost1         FFFFFFFFFFFFFFFF  1    1
```

**See Also** [map host](#)

[unmap host](#)



## show library info

**Description** Use this command to show all information pertaining to the tape library.

**Syntax** `show library info`

**Availability** All users and modes

**Operands** none

**Examples** To show all information for the tape library:

```

/>show library info
All tape library information
Tape library name: picker
Tape library firmware status: Green
Tape library product ID: ESL9322
Tape library serial number: 2G33KZ85H002
Tape library firmware revision: 3.40

*****
****
Tape library topology
Tape library:
Library Name          Serial Number          Interface Name
-----
picker                2G33KZ85H002          100000e0020286d1

Tape drives:
Drive Num          Serial Number          Type          Online? Interface
Name
-----
Drive 1
100000e0020286d1    HU72M09609            Ultrium 1-SCSI  yes
Drive 2
100000e0020286d1    HU72M09608            Ultrium 1-SCSI  yes
Drive 3
100000e00202733b    HU73A01003            Ultrium 1-SCSI  yes
Drive 4
100000e00202733b    HU72L12069            Ultrium 1-SCSI  yes
Drive 5
100000e0020286d1    HU72L12066            Ultrium 1-SCSI  yes
Drive 6
100000e0020286d1    HU72L12103            Ultrium 1-SCSI  yes
Drive 7
100000e00202733b    HU73A05925            Ultrium 1-SCSI  yes
Drive 8
100000e00202733b    HU72M07819            Ultrium 1-SCSI  yes

Interfaces:
Interface Card      Interface Name          WW Node Name
-----
1                   100000e0020286d1       100000e0020286d1
2                   100000e00202733b       100000e00202733b

```

See Also [show drive info](#)  
[show host info](#)

## show library interface

**Description** Use this command to show interface information pertaining to the library.

**Syntax** `show library interface`

**Availability** All users and modes

**Operands** none

**Examples** To show interface information for the tape library:

```
/>show library interface
Tape library interface information:
Interface Card      WW Port Name
-----
1                   100000e0020286d1
```

**See Also** [show interface info](#)

[show library info](#)

## show library name

**Description** Use this command to show the name of the tape library.

**Syntax** `show library name`

**Availability** All users and modes

**Operands** none

**Examples** To show the name of the tape library:

```
/>show library name  
Tape library name: mylibrary
```

**See Also** [show library info](#)

## show library productid

**Description** Use this command to show the product ID of the tape library.

**Syntax** `show library productid`

**Availability** All users and modes

**Operands** none

**Examples** To show the product ID of the tape library:

```
/>show library productid  
Tape library product ID: ESL 9326
```

**See Also** [show library info](#)

## show library revision

**Description** Use this command to show the firmware revision of the tape library.

**Syntax** `show library revision`

**Availability** All users and modes

**Operands** none

**Examples** To show the firmware revision of the tape library:

```
/>show library revision  
Tape library firmware revision: 3.456
```

**See Also** [show library info](#)  
[show firmware revisions](#)

## show library serialnumber

**Description** Use this command to show the serial number of the tape library.

**Syntax** `show library serialnumber`

**Availability** All users and modes

**Operands** none

**Examples** To show the serial number of the tape library:

```
/>show library serialnumber  
Tape library serial number: 123456ABCDEF
```

**See Also** [show library info](#)

## show library status

**Description** Use this command to show the status of the tape library.

**Syntax** `show library status`

**Availability** All users and modes

**Operands** none

**Examples** To show the status of the tape library:

```
/>show library status
```

Component	Status	Description
-----	-----	-----
Tape library	Red	
Robotics	Green	No errors detected
Drives:		
Drive1	Green	No errors detected
Drive2	Green	No errors detected
Drive3	Green	No errors detected
Drive4	Green	No errors detected
Drive5	Green	No errors detected
Drive6	Green	No errors detected
Interfaces:		
Interface1	Red	Firmware Mismatch Detected
Interface2	Red	Firmware Mismatch Detected
Interface Manager	Red	Firmware Mismatch Detected

**See Also** [show library info](#)

## show library topology

**Description** Use this command to show the topology of the tape library.

**Syntax** `show library topology`

**Availability** All users and modes

**Operands** none

**Examples** To show the topology of the tape library:

```

/>show library topology
Tape library topology
Tape library:
Library Name          Serial Number          Interface Name
-----
picker                2G33KZ85H002          100000e0020286d1

Tape drives:
Drive Num             Serial Number          Type          Online? Interface
Name
-----
Drive 1              HU72M09609             Ultrium 1-SCSI  yes
100000e0020286d1
Drive 2              HU72M09608             Ultrium 1-SCSI  yes
100000e0020286d1
Drive 3              HU73A01003             Ultrium 1-SCSI  yes
100000e00202733b
Drive 4              HU72L12069             Ultrium 1-SCSI  yes
100000e00202733b
Drive 5              HU72L12066             Ultrium 1-SCSI  yes
100000e0020286d1
Drive 6              HU72L12103             Ultrium 1-SCSI  yes
100000e0020286d1
Drive 7              HU73A05925             Ultrium 1-SCSI  yes
100000e00202733b
Drive 8              HU72M07819             Ultrium 1-SCSI  yes
100000e00202733b

Interfaces:
Interface Card        Interface Name          WW Node Name
-----
1                    100000e0020286d1       100000e0020286d1
2                    100000e00202733b       100000e00202733b

```

**See Also** [show library info](#)



## show license

**Description** Use this command to show the license key and quantity of currently licensed features.

**Syntax** `show license`

**Availability** All users and modes

**Operands** none

**Examples** To show the licensed features supported and currently licensed and their license keys:

```
/>show license
Supported Licensed Feature      Licensed? Qty  License Key
-----
Direct Backup                  Yes      8    cQebzbRdScRfc0iK
Advanced Access Controls       No
```

**See Also** [show mgmt info](#)

## show mgmt clock

**Description** Use this command to show the current date and time for the Interface Manager card.

**Syntax** `show mgmt clock`

**Availability** All users and modes

**Operands** none

**Examples** To show the current date and time for the Interface Manager card:

```
/>show mgmt clock  
Interface managager date and time: 12/14/2002 13:02
```

**See Also** [set mgmt clock](#)  
[set mgmt timezone](#)

## show mgmt info

**Description** Use this command to show Interface Manager card information.

**Syntax** `show mgmt info`

**Availability** All users and modes

**Operands** none

**Examples** To show all Interface Manager card information:

```
/>show mgmt info
Interface manager status: Good
Interface manager firmware revision: 1.01
Interface manager date and time: 12/14/2002 13:02
Interface manager timezone: -07:00
```

**See Also** [show drive info](#)  
[show host info](#)  
[show interface info](#)  
[show library info](#)

## show mgmt revision

**Description** Use this command to show the current Interface Manager card firmware revision.

**Syntax** `show mgmt revision`

**Availability** All users and modes

**Operands** none

**Examples** To show the current Interface Manager card firmware revision:

```
/>show mgmt revision  
Interface manager firmware revision: 1.01
```

**See Also** [show mgmt info](#)

## show mgmt status

**Description** Use this command to show the current Interface Manager card status.

**Syntax** `show mgmt status`

**Availability** All users and modes

**Operands** none

**Examples** To show the current Interface Manager card status:

```
/>show mgmt status  
Interface manager status: Good
```

**See Also** [show mgmt info](#)

## show mgmt timezone

**Description** Use this command to show the Interface Manager card time zone.

**Syntax** `show mgmt timezone`

**Availability** All users and modes

**Operands** none

**Examples** To show the Interface Manager card time zone:

```
/>show mgmt timezone  
Interface manager time zone: America/Denver (MST)
```

**See Also** [set mgmt timezone](#)  
[set mgmt clock](#)  
[show mgmt clock](#)

## show mode

**Description** Use this command to show the current command mode.

**Syntax** `show mode`

**Availability** All users and modes

**Operands** none

**Examples** To show the current command mode:

```
/>show mode  
Current command mode: manual
```

**See Also** [set mode](#)

## show network dhcp

**Description** Use this command to show whether DHCP mode is enabled or disabled. When enabled, DHCP will be used to set the Interface Manager card IP address.

**Syntax** `show network dhcp`

**Availability** All users and modes

**Operands** none

**Examples** To show whether DHCP mode is enabled or disabled:

```
/>show network dhcp  
DHCP: disabled
```

**See Also** [set network dhcp](#)  
[set network ipaddress](#)  
[show network ipaddress](#)



## show network ipaddress

**Description** Use this command to display the current IP address, subnet mask, and gateway address for the Interface Manager card.

---

**Note:** The subnet mask and gateway address will only be displayed if DHCP is disabled.

---

**Syntax** `show network ipaddress`

**Availability** All users and modes

**Operands** none

**Examples** To show the current IP address, subnet mask, and gateway address:

```
/>show network ipaddress
DHCP: disabled
IP address: 207.46.249.190
Subnet mask: 255.255.248.0
Gateway address: 207.46.72.1
```

**See Also** [set network dhcp](#)  
[show network dhcp](#)  
[set network ipaddress](#)

## show robotics status

**Description** Use this command to show the status of the library robotics.

**Syntax** `show robotics status`

**Availability** All users and modes

**Operands** none

**Examples** To show the status of the library robotics:

```
>show robotics status  
  
Tape Library robotics status      : Red  
Tape Library robotics available  : Yes  
Tape Library robotics Errors:  
  Error #1  Firmware mismatch detected
```

**See Also** [show library info](#)

## show system assetnumber

**Description** Use this command to show the system asset number.

**Syntax** `show system assetnumber`

**Availability** All users and modes

**Operands** none

**Examples** To show the system asset number:

```
/>show system assetnumber  
System asset number: 123456ABCD
```

**See Also** [set system assetnumber](#)  
[show system info](#)

## show system contact email

**Description** Use this command to show the system contact email address.

**Syntax** `show system contact email`

**Availability** All users and modes

**Operands** none

**Examples** To show the system contact email address:

```
/>show system contact email  
System contact email address: myname@myorg.com
```

**See Also** [set system contact email](#)  
[show system info](#)

## show system contact name

**Description** Use this command to show the system contact name.

**Syntax** `show system contact name`

**Availability** All users and modes

**Operands** none

**Examples** To show the system contact name:

```
/>show system contact name  
System contact name: myfirstname_mylastname
```

**See Also** [set system contact name](#)  
[show system info](#)

## show system contact pager

**Description** Use this command to show the system contact pager.

**Syntax** `show system contact pager`

**Availability** All users and modes

**Operands** none

**Examples** To show the system contact pager:

```
/>show system contact pager  
System contact pager: 444-444-4444
```

**See Also** [set system contact phone](#)  
[show system info](#)

## show system contact phone

**Description** Use this command to show the system contact phone number.

**Syntax** `show system contact phone`

**Availability** All users and modes

**Operands** none

**Examples** To show the system contact phone number:

```
/>show system contact phone  
System contact phone number: 444-444-4444
```

**See Also** [set system contact phone](#)  
[show system info](#)

## show system info

**Description** Use this command to show all system information.

**Syntax** `show system info`

**Availability** All users and modes

**Operands** none

**Examples** To show all system information:

```
/>show system info
System information
System status: Good
System contact name: myfirstname_mylastname
System contact phone number: 444-444-4444
System contact pager number: 222-222-2222
System contact email address: myname@myorg.com
System location: mylocation
System asset number: 123456ABCD
System name: mysystemname
```

**See Also** [show system status](#)



## show system location

**Description** Use this command to show the system location.

**Syntax** `show system location`

**Availability** All users and modes

**Operands** none

**Examples** To show the system location:

```
/>show system location  
System location: mylocation
```

**See Also** [set system location](#)  
[show system info](#)

## show system name

**Description** Use this command to show the system name.

**Syntax** `show system name`

**Availability** All users and modes

**Operands** none

**Examples** To show the system name:

```
/>show system name  
System name: mysystemname
```

**See Also** [set system name](#)  
[show system info](#)

## show system status

**Description** Use this command to show the system status.

**Syntax** `show system status`

**Availability** All users and modes

**Operands** none

**Examples** To show the system status:

```
/>show system status  
System status: Good
```

**See Also** [show system info](#)

## unmap host

**Description** Use this command to block access to all of the current drives for the specified host.



**Caution:** Using this command could force a reboot of some interfaces. Make sure that no backup jobs are in progress before running this command.

**Syntax** `unmap host <host_num>`

**Availability** All users and modes

**Operands** `<host_num>` Specify the host number.  
This operand is required.

**Examples** To block host 1 access to all drives:

```
/>unmap host 1
Caution: Unmapping hosts could force a reboot of some interfaces
and will terminate all backup operations involving the rebooting
interfaces.
Do you really want to unmap the host? y
Committing configuration...done
```

**See Also** [map host](#)  
[set host name](#)  
[show host name](#)



# Supplemental Information



## ALPA matrix

0:0x01	16:0x29	32:0x45	48:0x5A	64:0x75	80:0x9E	96:0xB5	112:0xD2
1:0x02	17:0x2A	33:0x46	49:0x5C	65:0x76	81:0x9F	97:0xB6	113:0xD3
2:0x04	18:0x2B	34:0x47	50:0x63	66:0x79	82:0xA3	98:0xB9	114:0xD4
3:0x08	19:0x2C	35:0x49	51:0x65	67:0x7A	83:0xA5	99:0xBA	115:0xD5
4:0x0F	20:0x2D	36:0x4A	52:0x66	68:0x7C	84:0xA6	100:0xBC	116:0xD6
5:0x10	21:0x2E	37:0x4B	53:0x67	69:0x80	85:0xA7	101:0xC3	117:0xD9
6:0x17	22:0x31	38:0x4C	54:0x69	70:0x81	86:0xA9	102:0xC5	118:0xDA
7:0x18	23:0x32	39:0x4D	55:0x6A	71:0x82	87:0xAA	103:0xC6	119:0xDC
8:0x1B	24:0x33	40:0x4E	56:0x6B	72:0x84	88:0xAB	104:0xC7	120:0xE0
9:0x1D	25:0x34	41:0x51	57:0x6C	73:0x88	89:0xAC	105:0xC9	121:0xE1
10:0x1E	26:0x35	42:0x52	58:0x6D	74:0x8F	90:0xAD	106:0xCA	122:0xE2
11:0x1F	27:0x36	43:0x53	59:0x6E	75:0x90	91:0xAE	107:0xCB	123:0xE4
12:0x23	28:0x39	44:0x54	60:0x71	76:0x97	92:0xB1	108:0xCC	124:0xE8
13:0x25	29:0x3A	45:0x55	61:0x72	77:0x98	93:0xB2	109:0xCD	125:0xEF
14:0x26	30:0x3C	46:0x56	62:0x73	78:0x9B	94:0xB3	110:0xCE	
15:0x27	31:0x43	47:0x59	63:0x74	79:0x9D	95:0xB4	111:0xD1	



# Index

## A

- Actions button, described [28](#), [29](#)
- administrative password [59](#)
- advanced features [83](#)
- ALPA matrix [205](#)
- audience [12](#)
- authorized reseller, HP [17](#)
- automatic mode [48](#), [72](#)

## B

- barcodes, finding [47](#)
- browser requirements [24](#)

## C

- cascade port
  - described [66](#)
  - IP address [67](#)
- cautions
  - browser navigation buttons [28](#)
  - configuration changes may require reboot [47](#), [85](#)
  - removing a license key may require a reboot [62](#)
  - terminating sessions [22](#), [64](#)
  - updating firmware [38](#)
  - using manual mode [49](#), [72](#)
- Command Line Interface (CLI)
  - abbreviating commands [69](#)
  - accessing [64](#)
  - command reference [101](#)
  - command sequences, using [69](#)
  - command syntax structure [68](#)

- common functions [72](#)
- described [63](#)
- device status, monitoring [75](#)
- FC interface controllers, configuring [74](#)
- firmware commands [78](#)
- log files, generating [75](#)
- login information [65](#)
- navigating [71](#)
- operational commands [71](#)
- serial interface
  - described [64](#)
  - starting [64](#)
- Setup wizard [73](#)
- Telnet interface
  - starting [66](#)
  - via the cascade port [66](#)
  - via the LAN [66](#)
- user commands [101](#)

- Command View ESL
  - accessing [23](#)
  - adding a library [32](#), [41](#)
  - administrative password [59](#)
  - common functions, listed [32](#)
  - configuring a library [33](#)
  - configuring FC interface controllers [34](#)
  - configuring network settings [33](#)
  - described [19](#), [25](#)
  - device numbering conventions [30](#)
  - features [23](#)
  - installing [25](#)
  - Launcher screen
    - illustrated [26](#)
    - using [27](#)



- managing libraries [41](#)
- menu bar [29](#)
- multiple GUI clients [23](#)
- navigating [27](#)
- prerequisites [24](#)
- removing a library [32](#), [41](#)
- service [25](#)
- starting [26](#)
- toolbar buttons [29](#)
- commands
  - abbreviating [69](#)
  - basic navigation [71](#)
  - command level [68](#)
  - command sequences, using [69](#)
  - firmware [78](#)
  - operational [71](#)
  - syntax structure [68](#)
  - user commands [101](#)
- communications settings [65](#)
- community string
  - adding [53](#)
  - described [52](#)
- component status function [44](#)
- Configuration tab [47](#)
- configuration, initial steps [31](#)
- Connection Properties screen [49](#)
- connection type, configuring [49](#)
- contact information, editing [48](#)
- conventions
  - document [13](#)
  - equipment symbols [14](#)
  - text symbols [13](#)

**D**

- device numbering conventions [30](#), [70](#)
- device status
  - monitoring [35](#)
  - monitoring with CLI [75](#)
- direct attach [34](#), [50](#)
- Direct Backup
  - described [50](#), [83](#), [84](#)
  - dialog box [86](#)

- enabling drives [85](#)
- requirements [84](#)
- screen [86](#)
- document
  - conventions [13](#)
  - related documentation [12](#)

## E

- equipment symbols [14](#)
- ESL library
  - adding [32](#), [41](#)
  - configuring [33](#)
  - configuring network settings [33](#)
  - configuring with CLI [74](#)
  - device numbering conventions [30](#)
  - front panel [30](#)
  - inventory, viewing [37](#)
  - managing [41](#)
  - properties, editing [48](#)
  - removing [32](#), [41](#)
- event log
  - displaying in popup box [45](#)
  - icons [36](#), [45](#)
  - viewing [36](#), [45](#)

## F

- fabric (SAN) attach [34](#), [50](#)
- Fibre Channel (FC) interface controllers
  - configuring [34](#)
  - configuring with CLI [74](#)
  - device numbering conventions [30](#)
  - settings, editing [48](#)
- Fibre Channel port settings, editing [34](#)
- File Transfer Protocol (FTP) [76](#), [77](#), [79](#)
- Find Barcode dialog box [47](#)
- firmware
  - allowing downgrades [39](#), [56](#)
  - keeping up-to-date [39](#)
  - updating [37](#)
  - updating from the Web [39](#)
  - updating with CLI [77](#)

- using locally stored files [39](#)
- Firmware Update screen [37](#)
- Firmware Update wizard
  - described [38](#)
  - launching [38, 55](#)

## G

- getting help [16](#)

## H

- hard ALPA, configuring [49](#)
- Health Summary screen [35, 43](#)
- Health Summary tab [43](#)
- Help button, described [29](#)
- help, obtaining [16](#)
- host access, configuring [50](#)
- HP
  - authorized reseller [17](#)
  - storage website [16](#)
  - technical support [16](#)
- HP on the Web item [54](#)
- HyperTerminal [65](#)

## I

- Identity tab [42](#)
- initial configuration steps [31](#)
- Interface Manager card
  - advanced features [83](#)
  - automatic mode [48](#)
  - cascade port
    - described [66](#)
    - IP address [67](#)
  - initial configuration steps [31](#)
  - manual mode [48](#)
  - mode [48](#)
  - user interfaces, illustrated [20](#)
- Interface Manager mode [48](#)
  - automatic [72](#)
  - changing [72](#)
  - described [72](#)
  - manual [72](#)

- Internet connection [24](#)
- Inventory screen [46](#)
- inventory, viewing [37](#)

## J

- Java Runtime Environment (JRE) [26](#)

## L

- Launcher screen
  - illustrated [26](#)
  - tabs [27](#)
  - using [27](#)
- Library and Tape Tools (L&TT)
  - downloading [77](#)
  - for acquiring firmware [77](#)
- Library Properties screen [33, 48](#)
- Library Selection tab [27, 41](#)
- License Key Summary screen [60](#)
- License Key Summary tab [27, 60](#)
- license keys
  - adding [61](#)
  - installing [93](#)
  - instant-on 60-day license [60](#)
  - obtaining [92](#)
  - purchasing [92](#)
  - removing [62](#)
  - tracking [60](#)
  - types of [61](#)
- localhost [26](#)
- log files
  - generating with CLI [75](#)
  - types and filenames [76](#)

## M

- MAC settings [34, 51](#)
- management station
  - described [23](#)
  - installing Command View ESL [25](#)
  - network settings, configuring [58](#)
  - proxy settings [58](#)
  - web server port [58](#)

Management Station tab [27](#), [58](#)

manual mode [48](#), [72](#)

menu bar, described [29](#)

## N

network settings [51](#)

## O

one-based vs. zero-based numbering [30](#), [70](#)

Operations tab [53](#)

## P

password [59](#)

Port Connection Settings dialog box [49](#)

port connection type, configuring [34](#)

port mode, configuring [49](#)

port speed, setting [34](#), [49](#)

prerequisites [24](#)

Print button, described [29](#)

Print dialog box [29](#)

proxy settings, configuring [58](#)

## R

Reboot screen [53](#)

rebooting

all devices [54](#)

single device [54](#)

Refresh button, described [29](#)

related documentation [12](#)

Return button, described [29](#)

## S

screens

Connection Properties [49](#)

Direct Backup [86](#)

Firmware Update [37](#)

Health Summary [35](#), [43](#)

Inventory [46](#)

Launcher [26](#)

Library properties [48](#)

License Key Summary [60](#)

Reboot [53](#)

Secure Manager [89](#)

SNMP Alerts [52](#)

Secure Manager

accessing through the CLI [80](#)

adding a host [81](#)

advanced [80](#), [88](#)

basic [80](#), [88](#)

described [50](#), [80](#), [83](#), [88](#)

host HBA

adding or removing [90](#)

aliases, editing [91](#)

configuring access [91](#)

device map, viewing [92](#)

properties, viewing [91](#), [92](#)

mapping a host [80](#)

requirements [88](#)

screen [89](#)

using [89](#)

serial interface [19](#)

described [64](#)

starting [64](#)

Services applet [25](#), [97](#), [99](#)

Setup wizard [73](#)

setup.exe [25](#)

Simple Network Management Protocol (SNMP),

described [52](#)

SNMP alerts

community string, described [52](#)

configuring [52](#)

screen [52](#)

trap destinations, described [52](#)

SNMP Trap Entry dialog box [53](#)

status indicator [27](#)

Status tab [42](#)

supplemental information [205](#)

Support tab [54](#)

support tickets

described [78](#)

generating [78](#)

viewing with Library and Tape Tools (L&TT)

[80](#)

symbols in text [13](#)  
symbols on equipment [14](#)  
system date and time, editing [48](#)

## T

tabs

- Configuration [47](#)
- Health Summary [43](#)
- Identity [42](#)
- Library Selection [41](#)
- License Key Summary [60](#)
- Management Station [58](#)
- Operations [53](#)
- Status [42](#)
- Support [54](#)

TCP/IP [33](#), [51](#)

technical support, HP [16](#)

Telnet interface [19](#), [64](#)

- starting [66](#)
- via the cascade port [66](#)
- via the LAN [66](#)

text symbols [13](#)

time settings, editing [48](#)

toolbar buttons, described [29](#)

trap destinations  
  adding [53](#)  
  described [52](#)  
troubleshooting [95](#)

## U

user commands [101](#)

user interfaces

- Command View ESL [19](#)
- described [19](#)
- illustrated [20](#)
- order of precedence [22](#)
- serial [19](#)
- simultaneous sessions [22](#)
- Telnet [19](#), [64](#)

## W

warning

- symbols on equipment [14](#)

web server port [58](#)

websites

- HP storage [16](#)

world wide name, configuring [49](#)

## Z

zero-based vs. one-based numbering [30](#), [70](#)



---

## Figures

1	Network configuration for ESL9000 Series libraries. . . . .	20
2	Network configuration for ESL E-Series libraries. . . . .	21
3	Command View ESL Launcher screen . . . . .	26
4	Example of a typical screen showing the two-panel format and columnar data . . . . .	28
5	Health Summary screen . . . . .	35
6	Firmware Update screen . . . . .	37
7	Firmware Update wizard . . . . .	38
8	Health Summary screen . . . . .	43
9	Cabling View screen . . . . .	44
10	Inventory screen . . . . .	46
11	SNMP Alerts screen . . . . .	52
12	SNMP Trap Entry dialog box . . . . .	53
13	Firmware Update screen . . . . .	55
14	Firmware Update wizard . . . . .	56
15	License Key Summary screen . . . . .	60
16	Connecting to the cascade port . . . . .	67
17	Direct Backup screen . . . . .	86
18	Direct Backup dialog box. . . . .	86
19	Secure Manager screen . . . . .	89

---

## Tables

1	Document Conventions . . . . .	13
2	Toolbar buttons . . . . .	29
3	Device Numbering Conventions . . . . .	30
4	Device Numbering Conventions . . . . .	70
5	Basic Commands . . . . .	71
6	Operational commands. . . . .	71
7	Log file types and filenames . . . . .	76
8	ESL9000 Series issues . . . . .	95
9	ESL E-Series issues . . . . .	98

